U.S. Department of Energy

Performance and Accountability Report

Fiscal Year 2004

PERFORMANCE RESULTS

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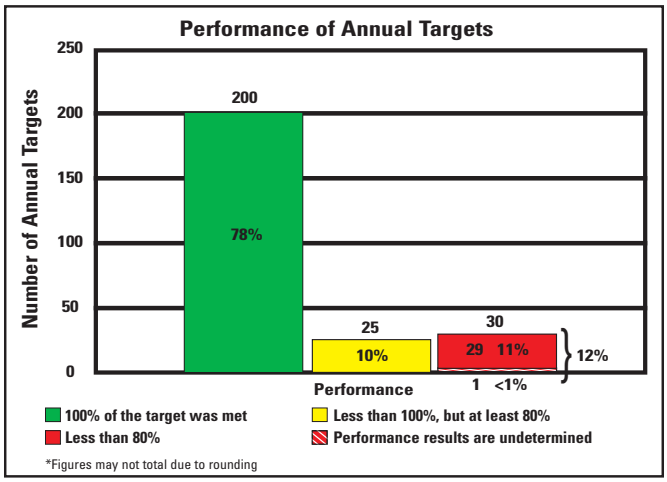
Introduction

In FY 2004, the Department carried out its mission through the pursuit of 59 program goals that articulate long-term (greater than one-year) outcomes and 255 annual targets that represent short-term (one-year) outcomes and/or outputs. Interim progress made toward annual targets is assessed by the performing organizations according to the completion of quarterly milestones.

The FY 2004 Performance Results section is composed of chapters for each General Goal, in the order of the four Strategic Goals they support, and consist of six sections:

- General Goal Overview, including a summary of FY 2004 annual performance against our annual targets, and FY 2003 and FY 2004 costs;
- Description of the Department's program goals that support the General Goal, including a Commentary section;
- Assessment of the FY 2004 annual performance targets associated with that Performance Goal;
- Supporting Documentation;
- Description of our Plan of Action for any annual targets that experienced performance shortfalls during the fiscal year; and
- Assessment of the Related Annual Targets for the period FY 2001-FY 2003.

The Department's performance through the course of FY 2004 against the annual targets is depicted in the following chart, using the color-coding scheme that is provided by the Joule performance tracking system (described below):



Joule Performance Monitoring and Tracking System

Joule is the Department of Energy's performance measurement tracking system for program goals and annual targets included in the Department's Annual Performance Plan (APP). Program goals and annual targets are created and reported on by offices/administrations, with the assistance of the Office of Management, Budget, and Evaluation (OMBE).

Performance is represented by a color rating (green, yellow, or red). The performance index is generated by the roll-up of annual target indices (the foundation level of the performance hierarchy, where actual performance is reported).

For the program goal and annual target levels, a "green" rating indicates that the performance index equals 100 percent. A "yellow" rating indicates that the performance index is less than 100 percent, but at least 80 percent. A "red" rating indicates that the performance index is less than 80 percent. Starting in FY 2004, performance results that are undetermined due to the accelerated reporting schedule of the PAR or other factors are coded as "red" and are categorized as "undetermined".

The Consolidated Quarterly Performance Report (CQPR) is created at the end of each quarter by OMBE, and transmitted to senior management by the Deputy Secretary of Energy. The report includes performance summaries for several areas, including Joule/APP, Small Business Contract Awards, Project Status Summary Assessments, the President's Management Agenda, and financial management information on funds available to obligate and cost.

The CQPR provides senior managers a "quick look" at program performance. The data is not meant to be a comprehensive assessment of program performance, but rather an "early warning" tool that will alert managers to potential problems that may hinder the completion of annual performance commitments. Department-level performance information is presented at the Department's Management Council meetings, chaired by the Deputy Secretary of Energy and attended by senior Departmental leadership.

Relationship Between Targets in Joule and the Program Assessment Rating Tool (PART)

PART was developed by OMB in 2002 as a key component for implementing the PMA, specifically, the Budget and Performance Integration component. PART grew out of the Administration's desire to provide federal agencies with a disciplined tool for assessing program planning, management, and performance against quantitative, outcome-oriented goals. As an instrument for periodically evaluating the effectiveness of our programs, PART enables federal managers to identify and rectify real and potential problems associated with program performance.

PART provides a pathway for the Department and OMB to agree upon meaningful long-term and annual goals for each program. As PARTs are completed for DOE programs, DOE's GPRA Program Unit goals will begin to correspond directly to the PART long-term goals and DOE's Joule targets will correspond to the PART annual goals. FY 2004 was the first year involving PART; therefore, there is minimal representation of PART measures in this PAR. In future PARs, the Department will clearly identify which Joule targets correspond in whole or in part to an accepted PART annual goal.

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General Goal 1: Nuclear Weapons Stewardship

Ensure that our nuclear weapons continue to serve their essential deterrence role by maintaining and the enhancing safety, security, and reliability of the U.S. nuclear weapons stockpile.

Summary of FY 2004 Annual Performance Targets

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
40.5	13.5	7	1

FY 2004 Program Costs ($ in Millions): Goal 1 Costs: $6,220
FY 2003 Program Costs ($ in Millions): Goal 1 Costs: $5,214

PROGRAM GOAL:

DP GG 1.27

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
	✓		

DIRECTED STOCKPILE WORK (DSW): Ensure that the nuclear warheads and bombs in the U.S. nuclear stockpile are safe, secure, and reliable. This goal is achieved by: (1) developing solutions to extend weapon life, correcting potential technical issues; (2) conducting scheduled warhead/bomb maintenance; (3) dismantling warheads/bombs retired from the stockpile; (4) conducting evaluations to certify warhead/bomb reliability and to detect/predict potential weapon fixes, mainly from aging; (5) producing and refurbishing warheads/bombs to install the life extension solutions and other fixes; and (6) researching advanced concepts. The DSW effort is fully coordinated with the Department of Defense (DoD).

Commentary: Absent underground nuclear testing, the stockpile was certified as safe, reliable, and secure and able to meet National Security requirements. Successful accomplishment of the FY 2004 performance targets made a positive contribution toward achieving this long-term DSW goal that, in turn, is essential for the conduct of a program of bomb/warhead research & development, evaluation, maintenance, refurbishment, and production, planned in partnership with the DoD. This directly supports the NNSA goal to maintain and enhance the safety, security, and reliability of the Nation's nuclear weapons stockpile to counter the threats of the 21st century.

Associated Annual Target for FY 2004

DP GG 1.27.1

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
✓			

Percent complete of required assessments and reports to support stockpile certification to the President.

Annual Target: Complete 100% of required Annual Stockpile Certification and Surety assessments and reports.

Commentary: Target fully met. Completed 100% of the Annual Stockpile Certification and Surety Assessment and Reports (i.e., Laboratory Annual Assessment Reports and Laboratory Annual Surety Reports) by the end of FY04/Q3. These reports enabled the annual stockpile certification by the Secretaries of Defense and Energy to the President.

Supporting Documentation: DP Milestone Reporting Tool and Actual Reports.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Report annually to the President on the need or lack of need to resume underground testing to certify the safety and reliability of the nuclear weapon stockpile (NS 1-1a).
  Assessment: MET

FY 2002

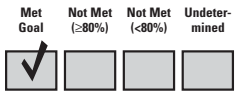
- The sixth annual letter to the President on the need or lack of need to resume underground testing to certify the safety and reliability of the nuclear weapon stockpile was transmitted in July 2002.
  Assessment: MET

FY 2001

- Report annually to the President on the need or lack of need to resume underground testing to certify the safety and reliability of the nuclear weapon stockpile.
  Assessment: MET

Associated Annual Target for FY 2004

DP GG 1.27.2 Cumulative percentage of progress in completing Phases of Nuclear Weapon Council (NWC)-approved B61-7/11 Life Extension Program (LEP).



Annual Target: Receive B61-7/11 Phase 6.4 authorization and complete 30% of Phase 6.4 (FY03 - 0% of Phase 6.4).

Commentary: Target exceeded. Received authorization for B61-7/11 Phase 6.4 (11/03). Completed 34% (48 of 139) planned Phase 6.4 milestones by FY04/Q3. FY activities maintained the progress to complete the B61 LEP by 2009 and extend its useful life.

Supporting Documentation: DP Milestone Reporting Tool and B61 LEP Integrated Master Schedule.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.27.3 Annual percentage of completed maintenance supporting Enduring Stockpile Maintenance in accordance with Production Control Document (PCD) schedules.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
	✓		

Annual Target: Complete 95% of all PCD-scheduled activity. Finish 100% of all prior year non-completed scheduled evaluations.

Commentary: Target partially met. Completed 85% of all PCD scheduled activities (vs 95% target) and finished 77% of all prior year non-completed scheduled evaluations (vs 100% target). As for the PCD-scheduled activities, work at Pantex was shut down (Q3) because of a previously unreviewed safety question on lightening and the Controlled Removable Electronic Media (CREM) work stoppage (Q4). The majority of the activities were restarted (Q4), but the M&O contractor recovery plan provided for completion of 85% of PCD-scheduled activity vs. target of 95% in FY04. As for the prior year non-completed activities, operational issues at Pantex and the unscheduled work stoppage due to CREM delayed disassemblies & inspections (D&Is), required prior to the evaluations. Of the planned 47 prior year non-completed D&Is, 36 were completed in FY04. Of the 11 non-completed D&Is, 4 are related to CREM stand-down and 4 are W84-related for which the authorization basis has expired.

Supporting Documentation: DP Milestone Reporting Tool, PCD schedule, and Pantex D&I schedule.

Plan of Action: For PCD scheduled activities, the plan is to work-off more than one-half of the backlog by FY05/Q2 in addition to accomplishing the planned FY05 activity. Pantex Site Office & M&O contractor are fully supporting the recovery schedule. Track remaining target until complete. For prior year non-completed evaluations, of the 11 non-completed D&Is, 7 (including 4 CREM-related) will be scheduled for completion by FY05/Q2. The 4 W84 D&Is will be scheduled for completion in FY06, after the W84 SS-21 procedures are approved. Track remaining target until completed.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.27.4 Cumulative percentage of progress in completing Phase 6.2/6.2A activities of the Robust Nuclear Earth Penetrator (RNEP).

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
✓			

Annual Target: Complete 17% of RNEP Phase 6.2/6.2A (FY03 -0%).

Commentary: Target fully met. Completed 17% of the scheduled RNEP Phase 6.2/6.2A activities. Completed component tests and released B83 Sled-Test Design on schedule. FY activities continued the scheduled RNEP examination, as authorized.

Supporting Documentation: DP Milestone Reporting Tool & RNEP Program Implementation Plan Schedule.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.27.5 Cumulative percentage of progress in completing Phases of NWC-approved W76-1 LEP.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
	✓		

Annual Target: Complete 75% of W76-1 Phase 6.3 (FY03 - 50%). Complete 10% of Phase 6.4 (FY03 - 0%).

Commentary: Target partially met. Due to the unscheduled work stoppage associated with the CREM issue, only completed an additional 19% (total 69%) of Full-Scale Engineering Development (FSED) Phase 6.3 FY04 target (75%). However, completed 12% of Phase 6.4 target (10%). Provided hardware that met design definition to complete planned Joint Test Assembly.

Supporting Documentation: DP Milestone Reporting Tool and W76 LEP Integrated Master Schedule.

Plan of Action: Convene Preliminary Design Review and Acceptance Group (DRAAG) 10/04 to obtain DoD concurrence on design; approve FSED Schedule rebaseline FY05/Q1; and track remaining target until complete.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.27.6 Cumulative percentage of progress in completing Phases of NWC-approved W80-3 LEP.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
	✓		

Annual Target: Complete 70% of W80-3 Phase 6.3 (FY03 - 55%). Complete 10% of W80-3 Phase 6.4 (FY03 - 0%).

Commentary: Target partially met. Completed an additional 15% (total 70%) of Phase 6.3 target (70%); however, FY04 funding realignments/priorities delayed the start of the Phase 6.4 activity.

Supporting Documentation: DP Milestone Reporting Tool and W80-3 LEP Integrated Master Schedule.

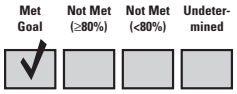
Plan of Action: Complete preliminary actions necessary for Phase 6.4 authorization. Reschedule the start of Phase 6.4 activity to FY05/1Q, concurrent with the authorization and track remaining target until complete. House FY05 Appropriations Bill reduces W80 LEP by $40M. This will most likely delay the start of Phase 6.4.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.27.7 Cumulative percentage of progress in completing Phases of NWC-approved W87 LEP.



Annual Target: Complete Alteration 342 to W87.

Commentary: Target met. The W87 activities at Pantex were restarted FY04/Q3 on an aggressive recovery schedule that resulted in completion of the target (Alteration) by the end of FY04/Q4, as originally scheduled. FY activities completed the W87 LEP and extended its useful life.

Supporting Documentation: DP Milestone Reporting Tool and W87 Quantity Production Schedule.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Additional Targets from 2003-2001

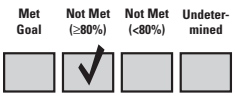
FY 2003
- Meet all annual weapons maintenance, refurbishment, and dismantlement schedules developed jointly by the DOE and DoD (NS 1-1b).
  Assessment: Met at or above 80% but less than 100% of Target

FY 2002
- Meet all annual weapons maintenance, refurbishment, and dismantlement schedules developed jointly by the DOE and DoD. This includes meeting milestones in the Federal Manager's Financial Integrity Act (FMFIA) corrective action plan for the Issue of Stockpile surveillance and testing.
  Assessment: MET

FY 2001
- Meet all annual weapons maintenance and refurbishment schedules developed jointly the DOE and DoD.
  Assessment: MET

PROGRAM GOAL:

DP GG 1.28

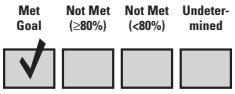


SCIENCE CAMPAIGN: Support the stockpile stewardship mission of the National Nuclear Security Administration (NNSA) by achieving the following goals: continue the development of knowledge, tools and methods to assess with confidence the safety, reliability and performance of the nuclear explosive package portion of weapons without further underground testing; develop new materials and technologies that are required to solve identified stockpile problems particularly for the nuclear explosive package; enhance the readiness of the NNSA to conduct underground nuclear testing as directed by the President; and develop and maintain essential scientific capabilities and infrastructure in nuclear weapons unique technologies.

Commentary: Actions continued to assess with confidence the safety, reliability and performance of the nuclear explosive package portion of weapons without further underground testing; develop new materials and technologies required to solve identified stockpile problems; enhance the readiness of the NNSA to conduct underground nuclear testing as directed by the President; and develop and maintain essential scientific capabilities and infrastructure in nuclear weapons-unique technologies. Successful accomplishment of the FY 2004 performance targets made a positive contribution toward achieving this long-term Science Campaign goal that, when coupled with other campaign target accomplishments, supports a strategy to develop science, design, engineering, testing, and manufacturing capabilities needed for long-term stewardship of the nuclear weapons stockpile. This directly supports the NNSA goal to maintain and enhance the safety, security, and reliability of the Nation's nuclear weapons stockpile to counter the threats of the 21st century.

Associated Annual Target for FY 2004

DP GG 1.28.1



Developments and improvements in the accuracy of predictive models and methodologies used to assess nuclear performance.

Annual Target: Complete development of Quantitative Margins and Uncertainties (QMU) logic for the W76, incorporate logic in advanced simulation , and conduct peer review.

Commentary: Target fully met. Completed a determination of the key performance gates for the W76 in FY04/3Q. Application of this logic and peer review of implementation facilitated achieving FY04/4Q target completion. FY activities continued to improve the accuracy of predictive nuclear performance assessment models/methodologies.

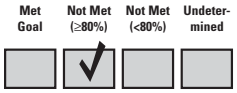
Supporting Documentation: DP Milestone Reporting Tool; JASON Review (07/04); and also reported at the Science Campaign Program Review (08/24/04).

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.28.2 Improved radiographic capabilities to support the assessment of nuclear performance, as required by the National Hydrodynamics Plan.



Annual Target: Complete 100% of the external technical review of required work on the Dual-Axis Radiographic Hydrotest (DARHT) facility and plans for completion of DARHT Second Axis.

Commentary: Target partially (80+%) met. The NNSA concern about possible delays in finding a vendor for new Mycalex material for replacement insulators in the DARHT accelerator cells was resolved. However, due to the unscheduled work stoppage at LANL associated with the CREM issue, the project has fallen behind schedule.

Supporting Documentation: DP Milestone Reporting Tool and DARHT CD-0 documentation.

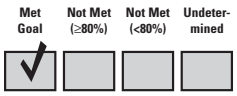
Plan of Action: Currently, estimate 6-month delay at LANL (FY05/2Q); proceed with plan laid out in CD-0; and monitor until complete.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.28.3 Readiness to conduct underground nuclear testing as established by National Security policy and documented in the Program Plan for Test Readiness.



Annual Target: Complete the Master Study for the Device Assembly Facility and implement the Technical Safety Requirements.

Commentary: Target fully met. (1) The Nuclear Explosive Safety Study (NESS) was completed 07/04. (2) The Armando Technical Safety requirements were implemented before Armando was executed on 05/29/04. FY activities supported 30-month test readiness status.

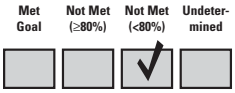
Supporting Documentation: DP Milestone Reporting Tool; (1) NTS Device Assembly Facility NESS Master Study; and (2) Armando Readiness Review Report.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.28.4 Documented National Hydrodynamics Plan, with peer review, to support the assessment of nuclear performance.



Annual Target: Execute the planned hydrodynamic experiments on DARHT and Container Firing Facility (CFF)/Flash X-Ray (FXR) at Los Alamos and Lawrence Livermore National Laboratories.

Commentary: Target not met. Had been on-track to accomplish FY04 target and completed 6 of 9 scheduled shots. However, due to the unscheduled work stoppage at LANL associated with the CREM issue, the project has now fallen behind schedule.

Supporting Documentation: DP Milestone Reporting Tool; Hydrotest Reports; and Science Campaign Review 08/24/04.

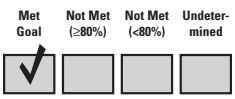
Plan of Action: LANL is developing corrective action plan and revised schedule. After approval by the HQ, the plan will be implemented. The target will be monitored until complete.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.28.5 Reduced cost of obtaining plutonium experimental data on the Joint Actinide Shock Physics Experimental Research (JASPER) facility to support primary certification models.



Annual Target: Establish the baseline cost for JASPER experiments.

Commentary: Target fully met. Completed determination of factors that contribute to baseline costs for JASPER shot in FY04/3Q and established baseline cost by end of FY04. FY activities will support continuation of a method to increase operational efficiency.

Supporting Documentation: DP Milestone Reporting Tool and Science Campaign Program review 08/24/04.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Additional Targets from 2003-2001

FY 2003

- Meet the critical FY 2003 Campaign performance targets contained in the NNSA Future-Year Nuclear Security Plan (FYNSP) (NS 1-2a).
  Assessment: Met at or above 80%, but less than 100% of the Target

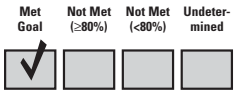
- Implement the recommendations requested by the Nuclear Posture Review to refine test scenarios and evaluate the cost/benefit tradeoffs to sustain optimum test readiness that best supports the New Triad (NS 1-2b). **Assessment: MET**

FY 2002 • There were no additional targets in FY 2002.

FY 2001 • There were no additional targets in FY 2001.

PROGRAM GOAL:

DP GG 1.29

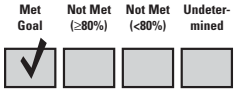


ENGINEERING CAMPAIGN: Provide validated engineering sciences and engineering modeling and simulation tools for design, qualification, assessment, and certification; improved surety technologies, improved radiation hardened design and modeling capabilities; improved microsystems and microtechnologies; component and material lifetime assessments; and predictive modeling capabilities and diagnostics to identify emerging aging concerns.

Commentary: Actions continued to provide validated engineering sciences and engineering modeling and simulation tools for design, qualification, assessment, and certification; improved surety technologies, improved radiation hardened design and modeling capabilities; improved microsystems and microtechnologies; component and material lifetime assessments; and predictive modeling capabilities and diagnostics to identify emerging aging concerns. Successful accomplishment of the FY 2004 performance targets made a positive contribution toward achieving this long-term Engineering Campaign goal that, when coupled with the target accomplishments of other campaigns, supports a strategy to develop science, design, engineering, testing, and manufacturing capabilities needed for long-term stewardship of the nuclear weapons stockpile. This directly supports the NNSA goal to maintain and enhance the safety, security, and reliability of the Nation's nuclear weapons stockpile to counter the threats of the 21st century.

Associated Annual Target for FY 2004

DP GG 1.29.1



Cumulative percentage of construction of the Microsystem and Engineering Science Application (MESA) Facility, as documented in the Engineering Campaign Program Plan.

Annual Target: Complete 35% of MESA construction.

Commentary: Target exceeded. Completed an additional 23% of the MESA construction in FY04 (total 45%) against FY04 target (total 35%). Project is ahead of baseline schedule. FY activities continue progress to deploy an operational MESA by 2009.

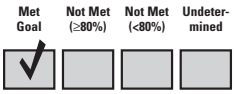
Supporting Documentation: DP Milestone Reporting Tool and monthly MESA reports to NNSA.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.29.2



Cumulative percentage of progress towards developing all improved surety improvements for Life Extension Programs having Phase 6.3 beginning in FY2010 or later, as documented in the Engineering Campaign Program Plan.

Annual Target: Complete 50% of the surety improvements.

Commentary: Target fully met. Completed an additional 10% of the improved surety improvements in FY04 (total 50%) as identified in the Surety Prioritization Study and the Enhanced Surety Implementation Plan. FY activities maintained required progress in meeting 2009 LEP support delivery schedule.

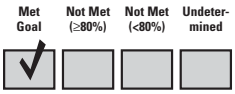
Supporting Documentation: DP Milestone Reporting Tool and site reports.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.29.3



Cumulative percentage of delivery of lifetime assessments, predictive aging models, and surveillance diagnostics toward the as documented in the Engineering Campaign Program Plan.

Annual Target: Complete 14% of the assessments, aging models and surveillance diagnostics (FY03 - 7%).

Commentary: Target fully met. Completed an additional 7% of the assessments, aging models, and surveillance diagnostics in FY04 (total 14%) or 15 Level 2 Milestones. This is significant because FY activities maintained required progress in meeting program 2012 100% objective.

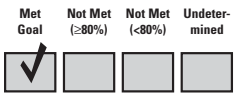
Supporting Documentation: DP Milestone Reporting Tool and site reports.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.29.4



Cumulative percentage of completed data sets used in developing tools and technologies to validate structural and thermal models with well defined ranges of applicability and qualified uncertainties in accordance with the Engineering Campaign Program Plan.

Annual Target: Complete 27% of the data sets (FY03 - 10%).

Commentary: Target fully met. Completed an additional 17% of the data sets in FY04 (total 27%). Data sets were produced to validate models that predict spin rate of the B61 and the stronglink-weaklink thermal race in the W80-3 Life Extension Program firing system design and an instrumented Nuclear Explosive Package was delivered. This is significant because FY activities maintained progress to deliver 47 data sets by 2009.

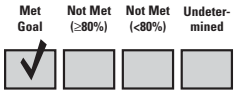
Supporting Documentation: DP Milestone Reporting Tool and site reports.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.29.5



Cumulative percentage of progress towards meeting goals identified in the Nuclear Survivability Annex of the Engineering Campaign Program Plan and effectiveness tools and technologies.

Annual Target: Complete 20% toward meeting goals.

Commentary: Target fully met. Completed an additional 10% of the activity scheduled (including 5 level 2 Milestones) in FY04 (total 20%). This is significant because FY activities maintained progress to deliver complete engineering technology and qualification tool development by 2012.

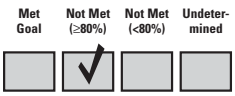
Supporting Documentation: DP Milestone Reporting Tool and site reports.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

PROGRAM GOAL:

DP GG 1.30

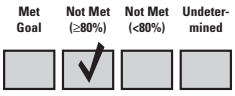


INERTIAL CONFINEMENT FUSION IGNITION and HIGH YIELD CAMPAIGN (ICF/NIF): Develops laboratory capabilities to create and measure extreme conditions of temperature, pressure, and radiation approaching those in a nuclear explosion and conducts weapons-related research, including nuclear burn, in these environments; this capability is required to support assessments and certification of the nation's nuclear weapons stockpile.

Commentary: Actions continued to develop laboratory capabilities to create and measure extreme conditions of temperature, pressure, and radiation approaching those in a nuclear explosion and conduct weapons-related research in these environments. FY 2004 performance targets accomplished made a positive contribution toward achieving this long-term ICF Campaign goal that, when coupled with the target accomplishments of other campaigns, supports a strategy to develop science, design, engineering, testing, and manufacturing capabilities needed for long-term stewardship of the nuclear weapons stockpile. This directly supports the NNSA goal to maintain and enhance the safety, security, and reliability of the Nation's nuclear weapons stockpile to counter the threats of the 21st century.

Associated Annual Target for FY 2004

DP GG 1.30.1



Cumulative percentage of progress towards creating and measuring extreme temperature and pressure conditions for the FY2010 nuclear stockpile stewardship requirements.

Annual Target: Complete 63%.

Commentary: Target partially met; completed 62%. Of 6 supporting milestones, 5 were completed. One, involving an experiment with a specific material on Trident, could not be completed in FY04/Q4, because of the unscheduled work stoppage associated with the CREM issue at LANL. The experiment is being rescheduled for FY05.

Supporting Documentation: DP Milestone Reporting Tool and program reports.

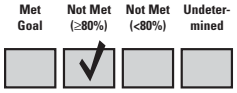
Plan of Action: Once the schedule is defined and approved, monitor execution. Expect to complete the experiment FY05/Q3. Track remaining target to completion.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.30.2 Cumulative percentage of progress towards demonstrating ignition (simulating fusion condition in a nuclear explosion) at the National Ignition Facility (NIF) to increase confidence in modeling weapons performance.



Annual Target: Complete 63%.

Commentary: Target partially met; completed 62%. Of 9 supporting milestones, 8 were completed. One could not be completed in FY04/Q4, because of a safety issue and the unscheduled work stoppage associated with the CREM issue at LANL. The experiment is being rescheduled for FY05.

Supporting Documentation: DP Milestone Reporting Tool and program reports.

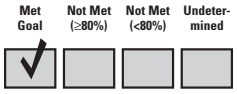
Plan of Action: Once the schedule is defined and approved, monitor execution. Expect to complete the experiment FY05/Q3. Track remaining target to completion.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.30.3 Cumulative percentage of construction completed on the 192-laser beam NIF.



Annual Target: Complete 74%.

Commentary: Target Exceeded. Completed an additional 11% (total 76%) of construction on the 192-beam NIF. This is important because FY activities maintained progress in completing NIF construction by 2008.

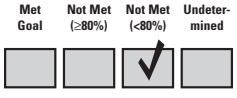
Supporting Documentation: DP Milestone Reporting Tool and monthly NIF Project reports.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.30.4 Cumulative percentage of equipment fabricated to support ignition experiments at NIF.



Annual Target: Complete 16% (FY03 - 7%).

Commentary: Target not met; completed additional 5% (total 12%). One of the two major supporting milestones, "Conceptual Design Report for NIF Cryogenic Target System (NCTS), could not be completed by FY04/4Q.

Supporting Documentation: DP Milestone Reporting Tool and NIF Project.

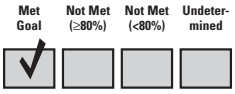
Plan of Action: Because of technical advances, the baseline ignition target has been changed to one that requires a simpler cryogenics system. This milestone is consistent with the revised schedule for ignition experiments and will be rescheduled for completion in FY05/2Q. Track remaining target to completion.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.30.5



Annual number of days available to conduct stockpile stewardship experiments, totaled for all ICF facilities.

Annual Target: 500 days.

Commentary: Target exceeded. Made available 700 days to conduct stockpile stewardship experiments at ICF facilities.

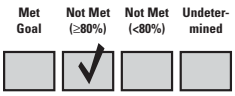
Supporting Documentation: Site facility reports.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

PROGRAM GOAL:

DP GG 1.31

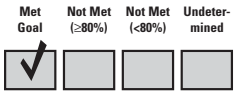


ADVANCED SIMULATION and COMPUTING CAMPAIGN (ASCI): Predict, with confidence, the behavior of Nuclear Weapons, through comprehensive, science-based simulations. In order to achieve this state, ASCI provides leading edge, high-end simulation capabilities needed to meet weapons assessment and certification requirements. These capabilities include developing weapon codes, weapon science, platforms, computer facilities and the necessary support to make the system operate together.

Commentary: Actions continued to predict, with confidence, the behavior of Nuclear Weapons, through comprehensive, science-based simulations by providing leading edge, high-end simulation capabilities needed to meet weapons assessment and certification requirements, including developing weapon codes, weapon science, platforms, computer facilities and the necessary support to make the system operate together. FY 2004 performance targets accomplished made a positive contribution toward achieving this long-term ASCI Campaign goal that, when coupled with the target accomplishments of other campaigns, supports a strategy to develop science, design, engineering, testing, and manufacturing capabilities needed for long-term stewardship of the nuclear weapons stockpile. This directly supports the NNSA goal to maintain and enhance the safety, security, and reliability of the Nation's nuclear weapons stockpile to counter the threats of the 21st century.

Associated Annual Target for FY 2004

DP GG 1.31.1



Peer-reviewed progress, according to schedule in the Advanced Simulation and Computing Campaign Program Plan, toward a validated full-system, high-fidelity simulation capability.

Annual Target: Achieve high-fidelity primary simulation and Stockpile to Target Sequence (STS) abnormal environments.

Commentary: Target fully met. Accomplished 100% of high-fidelity primary simulation and STS abnormal environments. This is significant because FY activities maintained progress in the development and implementation of improved models and methods into integrated weapon codes.

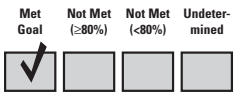
Supporting Documentation: DP Milestone Reporting Tool; DP Quarterly Program Reviews 05/04 and 07/04; and program reports.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.31.2



Number of weapon system components, primary/secondary/engineering system, analyzed using ASCI codes, as part of annual assessments and certifications.

Annual Target: 10 of 31.

Commentary: Target fully met. Analyzed an additional 3 of 31 weapon system components in FY04 (total 10 of 31). FY activities maintained progress toward analysis of all 31 weapon system components by 2010.

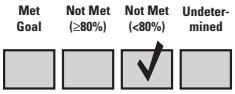
Supporting Documentation: DP Milestone Reporting Tool and status report.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.31.3 The maximum individual platform computing capability delivered, measured in trillions of operations per second (TeraOPS).



Annual Target: 40 TeraOPS (with 10 TeraBytes memory and 240 TeraBytes storage).

Commentary: Target not met. Testing of a new chip design has taken longer than planned. Delivery and operation of complete Red Storm platform has been delayed to FY05/2Q; with more than 80% available by FY04/4Q. Until Red Storm is operational, largest maximum individual platform computing capability remains at 20 TeraOPS.

Supporting Documentation: DP Milestone Reporting Tool and program reports.

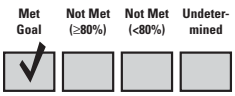
Plan of Action: Monitor schedule; look for possible efficiencies. Track remaining target to completion.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.31.4 Total capacity of ASCI production platforms attained measured in trillions of operations per second (TeraOPS) taking into consideration procurements and retirements of systems.



Annual Target: 75 TeraOPS.

Commentary: Target fully met. Attained total ASCI capacity of 75 TeraOPS. This is significant because FY activities maintained the schedule to attain a total production capacity of 930 TeraOPS by 2009.

Supporting Documentation: DP Milestone Reporting Tool and program reports.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.31.5 Average cost per TeraOPS of delivering, operating and managing all Stockpile Stewardship Program production systems in a given fiscal year.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
	✓		

Annual Target: Average cost of $8.15M/TeraOPS.

Commentary: Target partially met; average cost of $8.30M. Complete delivery of Red Storm computer platform (3rd Indicator & Target, above) is delayed until FY05/Q2. This results in a cost per TeraOPS of $8.30M, or 98% of target.

Supporting Documentation: Computation based on cost reports and production capability reports.

Plan of Action: Monitor schedule and cost reports. Remaining target should be achieved in FY05/Q2.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Additional Targets from 2003-2001

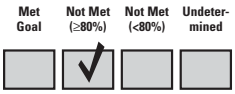
FY 2003
- There were no additional targets in FY 2003.

FY 2002
- Perform a prototype calculation of a full weapon system with three-dimensional engineering features.
  Assessment: MET

FY 2001
- Meet the FY 2001 ASCI Program Plan milestones for development of modeling and simulation tools and capabilities required for design and certification of the nuclear weapons stockpile.
  Assessment: MET

PROGRAM GOAL:

DP GG 1.32

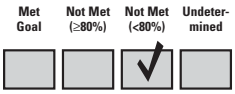


PIT MANUFACTURING: Restore the capability and some limited capacity to manufacture pits of all types required by the nuclear weapons stockpile including planning the design and construction of a Modern Pit Facility (MPF) to support long-term pit manufacturing.

Commentary: Actions continued to restore the capability and some limited capacity to manufacture pits of all types required by the nuclear weapons stockpile including planning the design and construction of a MPF to support long-term pit manufacturing. FY 2004 performance targets accomplished made a positive contribution toward achieving this long-term Pit Campaign goal that, when coupled with the target accomplishments of other campaigns, supports a strategy to develop science, design, engineering, testing, and manufacturing capabilities needed for long-term stewardship of the nuclear weapons stockpile. This directly supports the NNSA goal to maintain and enhance the safety, security, and reliability of the Nation's nuclear weapons stockpile to counter the threats of the 21st century.

Associated Annual Target for FY 2004

DP GG 1.32.1 Number of W88 pits manufactured.



Annual Target: Manufacture 6 (for total of 8).

Commentary: Target not met; manufactured 3 (total 5). A reprogramming decision by Defense Programs, supported by NNSA and DOE and approved by OMB and the Congress transferred $32 M from the W88 to the W76. Subsequent management approval, coordinated with DOD's Nuclear Weapons Council, of a Baseline Change Request established a revised schedule for the program to manufacture 4 pits (total of 6) in FY04. LANL actually manufactured 3 pits (total of 5) and was on schedule to manufacture 2 additional until the unscheduled work stoppage associated with the CREM issue.

Supporting Documentation: DP Milestone Reporting Tool and monthly project reports.

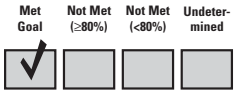
Plan of Action: HQ has approved this change based upon the fact that the rebaselined certification plan requires fewer tests on qualification pits than the previous plan, and relies on increased margin to be provided through the incorporation of an improved gas transfer system. The FY04 rebaselining schedule cancels the need for the 2 (FY04) pits, but still provides the required support for achieving a certified W88 pit, on schedule, in FY07. Progress on 1 (of the 2) LANL pits will be tracked until complete.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.32.2



Cumulative percent of major milestones, documented in the Pit Manufacturing and Certification Program Plan, completed on/ahead of schedule toward restoration of capability to manufacture the pit types in the enduring stockpile in FY 2009 and manufacture initial Engineering Development Units (EDUs) in FY 2012.

Annual Target: Complete 5% (new baseline).

Commentary: Target fully met. Completed initial 5% of major milestones in FY04. FY activities maintained progress toward restoration of capability to manufacture the pit types in the enduring stockpile in FY 2009.

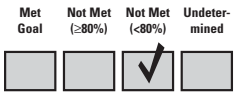
Supporting Documentation: DP Milestone Reporting Tool and monthly program reports.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.32.3



Cumulative percentage of major milestones, documented in the Pit Manufacturing and Certification Program Plan, completed on/ahead of schedule toward W88 pit certification.

Annual Target: Complete 25%.

Commentary: Target not met; completed 15%. LANL made significant progress in implementing the rebaselined schedule and was on track to complete 20% of the major milestones until the unscheduled work stoppage associated with the CREM issue. LANL is developing a revised schedule to meet the Level 1 Milestone for a certified pit by 2007.

Supporting Documentation: DP Milestone Reporting Tool and monthly program reports.

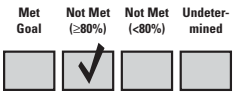
Plan of Action: NNSA is requesting the earliest possible completion date for the revised project baseline, including work packages, and a schedule for the completion of the major project milestones. After program approval, the schedule will be monitored until completion.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.32.4



Cumulative percentage of major milestones, documented in the Pit Manufacturing and Certification Program Plan, on/ahead of schedule toward completion of the Modern Pit Facility (MPF).

Annual Target: Complete 20% of the major milestones required for Critical Decision (CD)-1 approval (FY03 – initiated conceptual design).

Commentary: Target partially met; completed 17%. Progress continued through FY04 toward conceptual design (CD-1) of an MPF at a pace required for approval in 2007. The Program completed all required actions; however, the Administrator, NNSA and Secretary of Energy decided to defer until FY05 or later the release of Final Environmental Impact Statement (EIS) and programmatic Record of Decision.

Supporting Documentation: DP Milestone Reporting Tool; NA-1 Press release, 01/28/04 on MPF EIS deferral, including potential host site selection; and program documentation.

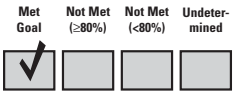
Plan of Action: Action Plan has two major components: (1) Maintain program readiness to complete associated milestones within 60 days of approval to proceed with MPF decision and (2) restructure Campaign activities to support continued development of a long-term pit manufacturing infrastructure, without near-term down-select to a single host.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.32.5



Completion of Nevada Test Site (NTS) milestones, documented in the Pit Manufacturing and Certification Program Plan, on or ahead of schedule toward execution of Los Alamos National Laboratory (LANL) major subcritical experiment (SCE) activities in support of the Pit Campaign.

Annual Target: Complete all FY04 milestones in support of the planned SCEs.

Commentary: Fully met target. Completed NTS milestones toward execution of LANL major subcritical experiments. This is significant because FY04 activities maintained schedule for the NTS to complete all related work by 2006.

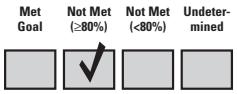
Supporting Documentation: DP Milestone Reporting Tool and monthly program reports.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

PROGRAM GOAL:

DP GG 1.33

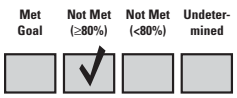


READINESS CAMPAIGN: An essential component of the Stockpile Stewardship Program with the responsibility for developing or reestablishing new manufacturing processes and technologies for qualifying weapon components for reuse.

Commentary: Actions continued to develop or reestablish new manufacturing processes and technologies for qualifying weapon components for reuse. Successful accomplishment of the FY 2004 performance targets made a positive contribution toward achieving this long-term Readiness Campaign goal that, when coupled with the target accomplishments of other campaigns, supports a strategy to develop science, design, engineering, testing, and manufacturing capabilities needed for long-term stewardship of the nuclear weapons stockpile. This directly supports the NNSA goal to maintain and enhance the safety, security, and reliability of the Nation's nuclear weapons stockpile to counter the threats of the 21st century.

Associated Annual Target for FY 2004

DP GG 1.33.2



Quantity of the major milestones, documented in the Readiness Campaign Program Plan, for major manufacturing processes (high explosives and weapons operations, stockpile readiness, and nonnuclear readiness), concerning new/upgraded capabilities completed, including foundry, machining, recovery, assembly, inspection, and verification processes to support stockpile production and Life Extension Program requirements.

Annual Target: Complete 5 of 27 major manufacturing process milestones.

Commentary: Target partially met; completed 4 (80%)of major manufacturing milestones for FY04. Program was on schedule to complete all 5 until the LANL unscheduled work stoppage associated with the CREM issue delayed the Integrated Pit Inspection Station.

Supporting Documentation: DP Milestone Reporting Tool and program reports.

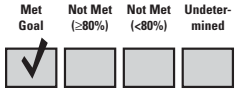
Plan of Action: Complete remaining target FY05/1Q. The Pantex Plant has a recovery plan in place to complete the Integrated Pit Inspection Station (IPIS) milestone within 12 weeks of receipt of the engineering evaluation release (EER) from LANL. EER delivery is forecast for 10/29/04, and the inspection station is expected to complete in 2Q/FY 05. Track remaining target until complete.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.33.3 Quantity of coated cladding tubes acquired for Tritium-Producing Burnable Absorber Rods.



Annual Target: Obtain 317 coated cladding tubes.

Commentary: Target fully met. Acquired 317 coated cladding tubes-delivered from PNNL to WesDyne. Tubes will be used in the next assembly of Tritium-Producing Burnable Absorber Rods (TPBARS) that will be shipped from Westinghouse Fuels in 12/04. This is significant because FY activities maintained progress to complete irradiation of 1840 TPBARS by 2010 to regenerate tritium production.

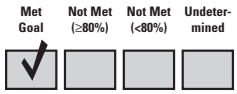
Supporting Documentation DP Milestone Reporting Tool and program reports.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.33.4 Cumulative percent of Tritium Extraction Facility (TEF) construction phase completed.



Annual Target: Complete 90% of TEF construction phase.

Commentary: Target fully met. Completed additional 40% (total 90%) of TEF construction in FY04. This is significant because the TEF remains on schedule for completion/turnover.

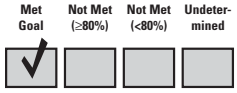
Supporting Documentation: DP Milestone Reporting Tool and SRS monthly reports to NA-10.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.33.5 Cumulative percentage of Tritium Extraction Facility (TEF) project (total project cost), while maintaining a Cost Performance Index of 0.9-1.5.



Annual Target: Complete 80% of TEF project.

Commentary: Target fully met. Completed additional 16% (total 80%) of TEF project in FY04. The TEF remains on schedule for completion/turnover.

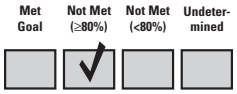
Supporting Documentation: DP Milestone Reporting Tool and SRS monthly reports to NA-10.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

PROGRAM GOAL:

DP GG 1.34

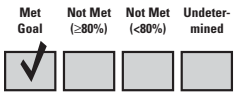


READINESS IN TECHNICAL BASE AND FACILITIES (RTBF) - OPERATIONS AND MAINTENANCE: Operate and maintain National Nuclear Security Administration (NNSA) program facilities in a safe, secure, efficient, reliable and compliant condition so that they are operationally ready to execute nuclear weapons stockpile stewardship tasks on-time as identified by the Directed Stockpile Work and Campaign programs. This includes facility operating costs (e.g. utilities, equipment, facility personnel, training, and salaries); facility and equipment maintenance costs (staff, tools, and replacement parts); environmental, safety, and health costs; the capability to recover and recycle plutonium, highly-enriched uranium, and tritium to support a safe and reliable nuclear stockpile; and specialized storage containers sufficient to support the requirements of the Nuclear Weapons Stockpile. To accomplish this mission, the NNSA must reverse the deterioration of its nuclear weapons infrastructure, restore lost production capabilities, and modernize selected facilities in order to be ready to begin scheduled refurbishments.

Commentary: Facility and infrastructure activities resulted in continued improvements to a safe, secure, efficient, reliable and compliant condition of the nuclear weapons complex in support of Stockpile Stewardship Program requirements. Successful accomplishment of the FY 2004 performance targets made a positive and on-schedule contribution toward achieving this long-term RTBF O&M goal that, when coupled with the target accomplishments of RTBF Construction, supports a strategy to provide state-of-the-art facilities and infrastructure supported by advanced scientific and technical tools to meet operational and mission requirements. This directly supports the NNSA goal to ensure the vitality and readiness of the NNSA's nuclear security enterprise.

Associated Annual Target for FY 2004

DP GG 1.34.1



Annual percentage of scheduled days that mission essential facilities are actually available.

Annual Target: 90% or more.

Commentary: Target exceeded. The average facility availability is 97.14%. This is significant because FY activities continued program efforts to maintain a responsive infrastructure.

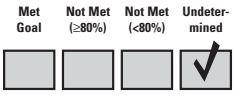
Supporting Documentation: DP Milestone Reporting Tool and site reports.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.34.2 Number of Reportable Accidents/200,000 hours work [vs. the Bureau of Labor and Statistics (BLS) national standard].



Annual Target: Reportable accidents are below National Bureau of Labor standards of 6.4.

Commentary: Results can not be determined by 9/30/04 because site reporting of fourth quarter accident rates is not be available until November, 2004. Final results will be determined and reported at that time. Aggregate accident rate through the third quarter is 1.85 per 200,000 work hours, well below the National Bureau of Labor Statistics (BLS) rate of 6.4. This accomplishment is significant because FY activities maintained the program efforts to provide a safe working environment.

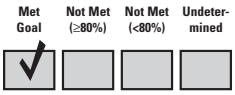
Supporting Documentation: DP Milestone Reporting Tool and site reports.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.34.11 Annual NNSA complex-wide aggregate Facility Condition Index (FCI), measured in deferred maintenance cost per replacement plant value, for all mission-essential facilities and infrastructure (the industry standard for good facilities is below 5%).



Annual Target: FCI below 10%.

Commentary: Target exceeded. The aggregate FCI for NNSA mission-essential facilities and infrastructure is 7.23%. This is significant because FY activities are on track to achieve an FCI of 5% or below.

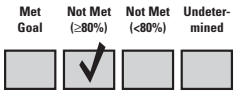
Plan of Action: DP Milestone Reporting Tool and site reports.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

PROGRAM GOAL:

DP GG 1.35

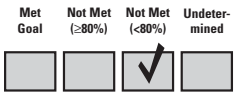


READINESS IN TECHNICAL BASE AND FACILITIES (RTBF) - CONSTRUCTION: New and ongoing line-item construction projects which support the nuclear weapons complex, but are not directly attributable to Directed Stockpile Work (DSW) or a specific campaign. RTBF construction focuses on state-of-the-art facilities and infrastructure and advanced scientific and technical tools, within the approved baseline cost and schedule, to ensure a reliable nuclear weapons stockpile.

Commentary: Line construction project activities resulted in continued improvements to a safe, secure, efficient, reliable and compliant condition of the nuclear weapons complex in support of Stockpile Stewardship Program requirements. FY 2004 performance targets accomplished made a positive and on-schedule contribution toward achieving this long-term RTBF Construction goal that, when coupled with the target accomplishments of RTBF O&M, supports a strategy to provide state-of-the-art facilities and infrastructure supported by advanced scientific and technical tools to meet operational and mission requirements. This directly supports the NNSA goal to ensure the vitality and readiness of the NNSA's nuclear security enterprise.

Associated Annual Target for FY 2004

DP GG 1.35.1



Number of projects initiating designs/attaining Critical Decision (CD)-1 , or canceled for cause.

Annual Target: Initiate design (CD-1) on, or cancel for cause, 11 projects.

Commentary: Target not met. Initiated design on 7 projects and cancelled 1 project (Lithoraphy Galvanoformung Abformung (LIGA) facility) for cause (73%). Postponed design initiation to FY05 for three projects (LANL Chemistry and Metallurgy Research Facility Replacement (CMRR), SRS Capability for Advanced Loading Missions (CALM), and Y-12 Beryllium) because of funding limitations and priorities.

Supporting Documentation: DP Milestone Reporting Tool and Project Reports.

Plan of Action: Reschedule 3 projects to FY05; track remaining target to completion.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.35.2 Number of projects initiating construction [CD-3] on schedule, or canceled for cause.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
☐	☑	☐	☐

Annual Target: Initiate construction (CD-3) on, or cancel for cause, 8 projects.

Commentary: Target partially met. Because of priority changes, actually scheduled 7 projects for CD-3 and completed 7. Based on funding limits and priorities, 1 project (LANL CMRR Light Laboratory/Office Building) was moved to FY05.

Supporting Documentation: DP Milestone Reporting Tool and Project Reports.

Plan of Action: The remaining project will be reported against FY05 target.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.35.3 Number of construction projects completed [CD-4] within approved scope, cost, and schedule baselines.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
☑	☐	☐	☐

Annual Target: Complete construction (CD-4) on 9 projects.

Commentary: Target fully met. Because of priority changes, actually scheduled 12 projects for CD-4 and completed 10.

Supporting Documentation: DP Milestone Reporting Tool and Project Reports.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Additional Targets from 2003-2001

FY 2003
- Meet established facility operating plans and construction schedules to ensure the physical infrastructure and facilities are operations, safe, secure, and compliant, and that a defined state of readiness is sustained at all needed facilities (NS 4-2a).
  Assessment: MET

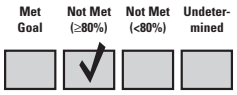
FY 2002
- Meet established facility operating plans and construction schedules to ensure the physical infrastructure and facilities are operational, safe, secure, and compliant, and that a defines state of readiness is sustained at all needed facilities. This includes addressing safety issues to allow restart of the Y-12 enriched uranium reduction process.
  Assessment: MET

FY 2001

- Ensure that the physical infrastructure and facilities are operational, safe, secure, and compliant, and that a defines state of readiness is sustained at all needed facilities.
  Assessment: MET

PROGRAM GOAL:

DP GG 1.36

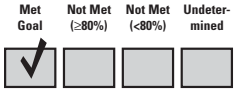


SECURE TRANSPORTATION ASSET (STA): Maintaining a capability for the safe and secure transport of nuclear weapons, components, and materials that will meet projected Department of Energy (DOE), Department of Defense (DoD), and other customer requirements.

Commentary: Actions continued to maintain a capability for the safe and secure transport of nuclear weapons, components, and materials to meet projected DOE, DoD, and other customer requirements. Successful accomplishment of the FY 2004 performance targets made a positive and on-schedule contribution toward achieving this long-term STA goal that supports a strategy to provide state-of-the-art facilities and infrastructure supported by advanced scientific and technical tools to meet operational and mission requirements. This directly supports the NNSA goal to ensure the vitality and readiness of the NNSA's nuclear security enterprise.

Associated Annual Target for FY 2004

DP GG 1.36.1 Number of secure convoys completed each year.



Annual Target: Complete > 90 convoys.

Commentary: Target met. Completed 91 convoy equivalents. This is significant because FY activities continued progress toward goal of 150 annual convoys.

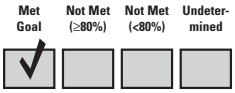
Supporting Documentation: DP Milestone Reporting Tool and STA customized computer database. (Convoy baseline is five days at full agent manning. Trip information from database is extracted and converted to convoy equivalents.)

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.36.2 Number of vehicles produced each year to replace the aging fleet of 100 escort vehicles and 46 armored tractors.



Annual Target: Replace > 20 vehicles.

Commentary: Target Exceeded. Replaced 23 vehicles (9 Conventional Escort Vehicles, 12 Special Response Vehicles, and 2 armored tractors). This is significant because FY activities continued progress toward fleet improvement goal.

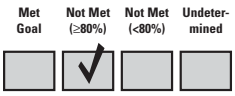
Supporting Documentation: DP Milestone Reporting Tool and contractor Statement of Work and delivery documents.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.36.3 Total number of Safeguard Transporters (SGTs) in operation to achieve a fleet of secure trailers.



Annual Target: Produce 3 SGTs for a total of 32 trailers.

Commentary: Target technically not met. Produced 3 SGTs as scheduled for a total of 31 trailers. However, the target of 32 (vs. 31) was incorrectly included at FY start based on an internal change in accounting for available trailers tested and operational vs. trailers off the production line. FY activities continued progress to achieve a fleet of 51 secure trailers.

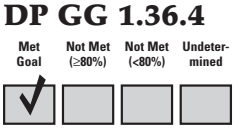
Supporting Documentation: DP Milestone Reporting Tool and contractor delivery documents.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.36.4 Total number of Federal Agents each year to achieve 420 agents by the end of 2008.



Annual Target: Achieve agent end-strength >266.

Commentary: Target exceeded. Current strength is 283. Rebaselining during the FY increased target to 280 to meet the needs of the accelerated DOE Environmental Management requirements. This is significant because FY activities continued progress toward achieving an agent force of 420.

Supporting Documentation: DP Milestone Reporting Tool and STA Federal Personnel database.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

PROGRAM GOAL:

DP GG 1.37 *NUCLEAR WEAPONS INCIDENT RESPONSE*: Respond to and mitigate nuclear and radiological incidents worldwide.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
	✓		

Commentary: Efforts remains on-track to achieve this program goal. Significant achievements during FY2004 included expanding maritime search capabilities, increasing consequence management qualifications, and improving response personnel/equipment readiness and remote assessment capabilities.

Associated Annual Target for FY 2004

DP GG 1.37.1 Cumulative number of the 7 designated Radiological Assistance Program (RAP) Regions with a maritime radiation search program.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
✓			

Annual Target: 1 (new baseline).

Commentary: The target was exceeded by fully establishing a maritime search program in 2 RAP regions. In addition to meeting all requirements at these 2 RAP regions, the program also completed all requirements except training on ship boarding procedures at 2 other RAP regions. However, NNSA is rethinking the process for RAP personnel to gain access to vessels at sea. Focus is shifting to train USCG in search procedures rather than RAP personnel boarding vessels at sea. In addition, the program completed deployment of maritime search equipment to all 7 RAP regions. This achievement is important because it is aimed at improving the nation's capability to detect the illicit introduction of nuclear and radiological weapons/material into the United States.

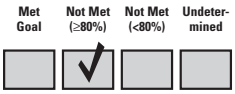
Supporting Documentation: Evidence of these results are documented in the Emergency Response Database System (ERDS).

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.37.2



Cumulative percentage of identified RAP team members (80 of 216) qualified to provide technical assistance in managing and executing the response to a radiological or nuclear event.

Annual Target: 30% of 80 team members qualified (new baseline).

Commentary: The target was not fully met as only 29% (23 of 80) of the planned RAP team members were qualified in FY04. This achievement is important because it allows RAP teams to manage the response to the aftermath of a radiological or nuclear event without having to wait for another team to arrive on the scene.

Supporting Documentation: Evidence of these results are documented in the Emergency Response Database System (ERDS).

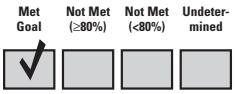
Plan of Action: Training for 1 of the 24 RAP members identified for training in FY2004 was delayed because of operations for emergency response. Training for this individual will be done during FY2005 when the next 24 RAP members are scheduled for training. Since this measures is cumulative the training for this individual is already included in the FY2005 target of 60%.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.37.3



Annual number of "no-notice" emergency management exercises conducted.

Annual Target: Conduct 8 exercises.

Commentary: The target was fully met by completing 8 no-notice exercises. This achievement is important because it provides the realistic training needed to prepare responders to handle an actual emergency. It also allows for new equipment and procedures to be tested and lessons identified in order to improve performance.

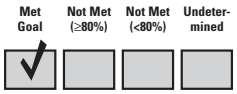
Supporting Documentation: Evidence of these results are documented in the FY04 No-Notice Exercise reports are available in the NA-41 Report Management Database.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.37.4 Annual Triage capability, measured in number of calls that could be resolved, to provide remote isotopic identification of an unknown item and determine if a threat exists.



Annual Target: 250 (new baseline).

Commentary: The target was fully met by validating the capability to resolve 250 individual triage calls annually for radiation spectrum analysis. A "triage call" is one radiation spectra file (i.e. the information contained from one radiation measurement) contained in an e-mail message. Each spectra file contained in an e-mail message is considered a separate triage call because it is analyzing a separate threat. During FY 04, field managers were able to compress multiple individual radiation spectrum analysis requests into one communication, in effect compressing multiple individual calls into one "batched" call. Triage received 31 of these "batched" calls, conducted 42 drills, and 17 communications checks, for a total of 90 callouts, collectively containing an equivalent of 250 individual calls. All requests were resolved successfully. This achievement is important because it provides a new and growing capability to remotely and cost-effectively determine the identity of an unknown item to see if a real threat exists so that response teams do not deploy unless appropriate.

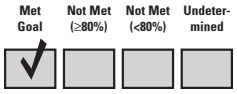
Supporting Documentation: Evidence of these results are documented in the Triage Database.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.37.5 Cumulative percentage of emergency response equipment replaced, upgraded, or re-certified by 2009.



Annual Target: 15% (new baseline).

Commentary: The target was exceeded by recertifying 100% of the equipment in FY04. Emergency response equipment to be replaced, upgraded, or re-certified have been entered into a central database and are being tracked for compliance to maintenance schedules. This achievement is important because it ensures that all response equipment is ready for use.

Supporting Documentation: Evidence of these results are documented in the Emergency Response Database System (ERDS).

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

PROGRAM GOAL:

DP GG 1.38

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
✓			

FACILITIES AND INFRASTRUCTURE RECAPITALIZATION PROGRAM (FIRP): Restore, rebuild and revitalize the physical infrastructure of the nuclear weapons complex – the third leg of the new Triad as identified in the Nuclear Posture Review dated December 2001 and released by the Administration in January 2002. The program applies new direct appropriations to address an integrated, prioritized series of repair and infrastructure projects focusing on deferred maintenance that will significantly increase the operational efficiency and effectiveness of the NNSA weapons complex sites.

Commentary: The Facilities and Infrastructure Recapitalization Program is contributing directly and significantly to the revitalization of the nuclear weapons complex, and based on FY 2004 results, remains on track to meet its long term goals. Recapitalization projects were authorized and funded in FY 2004 which will eliminate $98 million of deferred maintenance, 8% of the $1.2 billion FY 2009 deferred maintenance elimination goal. Additionally, disposition projects were authorized and funded which will result in the elimination of over 525,000 gross square feet of excess space, achieving a cumulative total of 57% of the FY 2009 goal of three million gross square feet to be eliminated. Approximately 77% of FY 2005 Recapitalization Projects are being planned with FY 2004 funds, exceeding the annual target of 53%.

Associated Annual Target for FY 2004

DP GG 1.38.1

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
✓			

Annual dollar amount of deferred maintenance backlog reduced based upon projects that have been issued authorizations to start work (and cumulative percentage of the estimated total deferred maintenance backlog of $1.2 billion to be reduced). The NNSA commitments are to stabilize deferred maintenance by the end of FY 2005 and achieve industry standards by the end of FY 2009 for mission essential facilities and infrastructure. The industry standard is for deferred maintenance to be less than 5% of Replacement Plant Value.

Annual Target: By the end of the fiscal year, issue authorizations to start work to achieve a reduction in NNSA's deferred maintenance of $79 million (7% of the estimated FY03 $1.2 billion baseline).

Commentary: Annual performance target was exceeded by issuing authorizations to start work on projects that will reduce NNSA's deferred maintenance by $98 million, for a cumulative total of approximately 8% of the estimated total deferred maintenance of $1.2 billion to be reduced by FY 2009. This achievement is important because it demonstrates significant progress towards NNSA's goal to reach industry standards in deferred maintenance levels for mission-essential facilities and infrastructure by FY 2009.

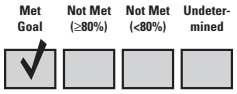
Supporting Documentation: Evidence of these results is documented in approved FIRP Work Authorizations for FY 2004 projects.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.38.2



Annual gross square feet (gsf) of excess facilities space reduced based upon projects that have been issued authorizations to start work (and cumulative percentage of gsf reduced) to achieve a total of three million gsf of excess facilities space reduced by FY 2009 in support of overall footprint reduction efforts.

Annual Target: By the end of the fiscal year, issue authorizations to start work to achieve a reduction to the NNSA footprint of 325,000 gsf, increasing the total footprint reduction to 45% of the estimated 3 million gsf that FIRP will disposition by FY 2009.

Commentary: Annual performance target was exceeded by issuing authorizations to start work on projects that will reduce NNSA's footprint by over 525,000 gsf, for a cumulative total of approximately 57% of the three million gsf that FIRP will disposition by the end of FY2009. This achievement is important because it demonstrates continued progress towards NNSA's goal for the elimination of excess facilities.

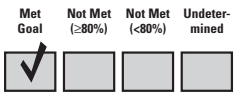
Supporting Documentation: Evidence of these results is documented in approved FIRP Work Authorizations for FY 2004 Facilities Disposition projects.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.38.3



Percentage of "next year" planned Recapitalization projects that are planned with current year planning funds.

Annual Target: At least 53%.

Commentary: Annual performance target was exceeded by issuing authorizations to plan 55 of 71 programmed FY 2005 Recapitalization projects. This represents approximately 77% of next years Recapitalization projects being planned with FY 2004 funds. This achievement is important because it demonstrates continued commitment to the effective and efficient execution of FIRP Recapitalization projects through advanced project planning.

Supporting Documentation: Evidence of these results is documented in approved FIRP Work Authorizations for FY 2004 Infrastructure Planning projects.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Additional Targets from 2003-2001

FY 2003
- Execute a multi-year Recapitalization Program to arrest the deterioration and reduce the backlog of maintenance and repair projects (NS 4-2b).
  Assessment: MET

FY 2002
- Execute oversight of more than 50 FY 2002 Recapitalization Projects consistent with scope, cost, and schedule baselines.
  Assessment: MET

FY 2001
- There were no additional targets in FY 2001.

PROGRAM GOAL:

DP GG 1.39

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
	✓		

SAFEGUARDS AND SECURITY: Protect National Nuclear Security Administration (NNSA) personnel, facilities, nuclear weapons, and information from terrorists and other post September 11th threats in a cost-effective manner.

Commentary: The program is on-track to fully achieve its long-term goal. During FY2004 results were mixed in that protective force overtime and physical security effectiveness were below targets. However, the program's cyber security effectiveness exceeded the target, completion of corrective action plans to fix all known findings exceeded the target, and the program is on-track to develop technologies that will reduce overtime and improve effectives thus correcting problem areas.

Associated Annual Target for FY 2004

DP GG 1.39.1 Percentage of Protective Force staff unscheduled overtime.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
	✓		

Annual Target: Reduce to 30%.

Commentary: The target was partially met as unscheduled overtime for FY 2004 yielded an annual cumulative rate of 34.7% of hours complex-wide compared to the target of 30%. This is important because reducing guard overtime hours through the deployment of new technologies reduces security operations costs.

Supporting Documentation: Defense Nuclear Security (DNS) FY2004 Unscheduled Overtime as Percentage of Total Overtime Table.

Plan of Action: Site visits were conducted during the early months of FY 2004. Management remains acutely aware of the need to reduce overtime, however continues to struggle with two primary realities: 1) the timeline for granting security clearances and 2) a period of heightened security; each of which increases the time it takes to hire and train new employees. This is an annual target which will remain unmet for FY 2004 but NNSA is investigating options to reduce unscheduled OT during FY 2005 through the deployment of new technologies to ease protective force requirements.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.39.2

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
☐	☐	☑	☐

Percentage of each of six physical security topical area reviews (program management, protective forces, physical security systems, information security, nuclear materials control and accountability and personnel security) at the NNSA sites where an evaluation of "effective" is achieved.

Annual Target: Increase to 80%.

Commentary: The target was not met as only 53.1% (26 of 49) of NNSA's physical security topical areas received effective ratings during their last OA inspection. This achievement is important because is provides an independent assessment of the physical security effectiveness at NNSA sites against a standard.

Supporting Documentation: Evidence of these results can be found in DNS Physical Security Table.

Plan of Action: All sites required to submit Corrective Action Plans (CAPs) have done so. A second OA inspection is scheduled for Y-12 in May 2005 to further assess progress. In addition, HQ is working closely with Y-12 and Nevada on critical issues highlighted in OA reports.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.39.3

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
☑	☐	☐	☐

Percentage of classified and unclassified Cyber Security reviews at the NNSA sites where an evaluation of "effective" is achieved.

Annual Target: Increase to 80%.

Commentary: The target of 80% was exceeded, as 10 out of 12, or 83% of NNSA's cyber security topical areas received effective ratings during their last OA inspections. This achievement is important because is provides an independent assessment of the cyber security effectiveness at NNSA sites against a standard.

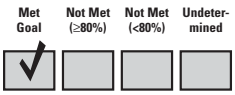
Supporting Documentation: Evidence of these results can be found in DNS Cyber Security Table.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.39.4



Percentage of Office of Independent Oversight & Performance Assurance (OA), Inspector General (IG) and Government Accountability Office (GAO) findings that have approved corrective action plans in place within 60 days from receipt of final report.

Annual Target: 90% of findings (FY03 - 4 sites 100%, 3 sites 90%, and 1 site 27%).

Commentary: The target was exceeded as 100% of sites established approved corrective action plans on-time. Each of the three sites reviewed have submitted approved Corrective Action Plans (CAPs) within the required 60 days. This achievement is important because it measures NNSA responsiveness in identifying effective fixes for findings identified during OA and other inspections.

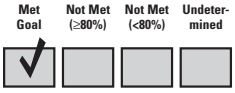
Supporting Documentation: Evidence of these results are documented in each site's CAP submissions: SNL-NM: Feb 27, 2004; Oak Ridge Y-12: April 16, 2004; LLNL-Cyber: May 24, 2004. Nevada is set to submit a CAP by mid-November, 2004.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1.39.5



Cumulative number of advanced technologies deployed for routine use, which reduce operational security costs while maintaining or increasing security "effectiveness".

Annual Target: Establish a technology development and application program.

Commentary: The target was fully met by establishing a program for development of new technologies. During the year NA-70 established a new program with over $5 million allocated to nine projects. The first technology is an enhancement of the Pantex early warning radar system, which will be deployed for routine use in October 2004. This achievement is important because new technologies will both increase security effectiveness and decrease protective force hours (costs).

Supporting Documentation: Evidence of these results are documented in the Technology Development Plan of March 2004.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Additional Targets from 2003-2001

FY 2003

- Assess line management's progress in implementing Integrated Safeguards and Security Management (NS 4-3a).
  Assessment: MET

- Complete implementation of "Higher Fences" to enhance the protection of certain Restricted Weapons Data within the DOE and DoD (NS 4-3b).
  Assessment: Met less than 80% of the Target

FY 2002

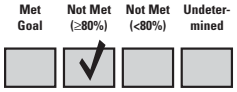
- Develop a strategic framework for responsive and effective security methodology following the September 11, 2001, events.
  Assessment: MET

FY 2001

- There were no additional targets in FY 2001.

PROGRAM GOAL:

DP GG 1/2 50

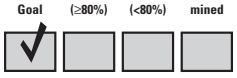


OFFICE OF THE ADMINISTRATOR (This Program Goal is shared with NN GG 1/2 50) Create a well-managed, diverse, inclusive, responsive, and accountable organization through the strategic management of human capital; enhanced cost-effective utilization of information technology; and greater integration of budget and performance data.

Commentary: Efforts remain on-track to achieve this program goal. Significant achievements during FY2004 included exceeding targets for reduction of NNSA federal staff, reduction is staffing vacancies and surplus employees, average PART scores, and awarding strategic sourcing contracts. IT targets were fully met and leadership targets were intentionally delayed two months into FY 2005 to take advantage the completion of the final stages of the NNSA reorganization.

Associated Annual Target for FY 2004

DP GG 1/2 50.1



(This Annual Target is shared with NN GG 1/2 50.1) Number of NNSA Federal employees.

Annual Target: 1,705 Federal employees (FY03 - 1,768).

Commentary: The target was exceeded as the end of year FY 2004 NNSA Federal staffing level for the Office of the Administrator account was 1,663. This achievement is important because it represents a reduction of 340 employees from FY 2002, a decrease of 17.0%.

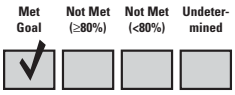
Supporting Documentation: Evidence of these results are documented in the NNSA Staffing Summary document prepared by NA-64, NNSA Office of Human Resources.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1/2 50.2 (This Annual Target is shared with NN GG 1/2 50.2) Annual NNSA Employment Efficiency Index to measure effectiveness in filling needed positions in accordance with approved Managed Staffing Plans.



Annual Target: 72% (new baseline).

Commentary: The target was exceeded as NNSA achieved an index of 97.1%. This achievement is important because NNSA continues to fill critical and noncritical vacancies and reduce surplus employees at a steady pace. The index may fluctuate when Managed Staffing Plans are revised to identify additional critical needs.

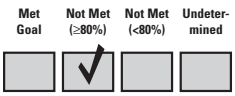
Supporting Documentation: Evidence of these results are documented in the "NNSA Employment Efficiency Index" prepared by the NNSA Office of Human Resources (NA-64). All information is based on the approved Managed Staffing Plans (MSPs).

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1/2 50.3 (This Annual Target is shared with NN GG 1/2 50.3) Percentage of NNSA employees who are aware that they can take a leadership role in fostering a diverse and inclusive workplace.



Annual Target: Develop NNSA's diversity leadership metrics and baseline.

Commentary: The target was unmet as only 85% of baselining activities were completed. Career coaching and follow up of 2003 Diversity Leadership Skills Training currently is in process and all other activities were completed on-time except the organizational assessment that was projected for September. Ambassador Brooks requested that the organizational assessment be conducted in November after the largest part of the NNSA reorganization is completed. This achievement is important to increase NNSA diversity and working environment.

Supporting Documentation: Evidence of these results are documented in the NNSA Diversity Demographic Analysis information is obtained quarterly from the DOE Info System which is updated on a continuous basis by NNSA's Office of Human Resources.

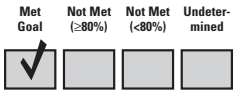
Plan of Action: Complete the organizational assessment in November (2 months late) as requested by Ambassador Brooks so it will come after the largest part of the NNSA reorganization is completed.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1/2 50.4 (This Annual Target is shared with NN GG 1/2 50.4) Average NNSA program score on the OMB PART assessment indicating progress in budget performance integration and results.



Annual Target: 70%.

Commentary: Target was exceeded by achieving an average PART score of 81.2%. Over the past 3 years OMB has assessed 10 of NNSA's 23 programs. OMB determined that one of those programs (EWGPP) was too new to fully rate at this time and the other 9 programs averaged a PART score of 81.2% (the average PART score including Elimination of Weapons Grade Plutonium Production (EWGPP) is 77.2% still exceeding the target). This achievement is important because it demonstrates that NNSA is ahead of schedule for meeting a Presidential requirement for all Government programs to integrate their performance results and budget dollars in terms that are clear and meaningful to the American public.

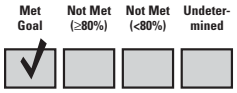
Supporting Documentation: Evidence of these results are documented in OMB PART excel spreadsheets and OMB 1-page PART Summaries. The Summaries are published each year in the budget.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1/2 50.5 (This Annual Target is shared with NN GG 1/2 50.5) Number of procurement actions awarded as a result of NNSA's Strategic Sourcing Initiative.



Annual Target: Award three contracts at a minimum cost savings of ten percent.

Commentary: Our annual target was exceeded. In total, we made 9 new prime strategic contract awards this fiscal year. This is a significant achievement because it resulted in at least a 10% cost savings.

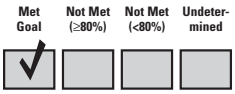
Supporting Documentation: Evidence of the number of contracts awarded are documented in the tracking worksheet summarizing Contract Name, Work Description, Billing Amount, Contract Duration, Projected Obligations, and Award Date. Evidence for the percentage of cost savings can be documented by comparing this fiscal years tracking worksheet with previous years.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

DP GG 1/2 50.6 (This Annual Target is shared with NN GG 1/2 50.6) Percentage of NNSA federal offices consolidated to the NNSA Information Technology Common Environment/Service Center. NOTE: Annual cost savings (gross) of $11M against an operating baseline of $34M will be achieved through a rationalized and modernized architecture resulting in reduced requirements for contractor support, equipment replacement and maintenance, and software procurement and licensing.



Annual Target: Baseline and initiate NNSA IT Service Center Standup and Common Environment project.

Commentary: The target was met by NNSA completing 100% of planned activities in FY 2004: project baselined, initiated and Livermore Site Office transitioned to Service Center support. Completed detailed planning for Los Alamos Site Office upgrades and also completed upgrades initiated during 4th Quarter. This achievement is a significant step in achieving NNSA IT modernization by FY06 that will result in an annual cost savings (gross) of $11M against an operating baseline of $34M.

Supporting Documentation: Evidence of these results are documented in the NNSA Service Center Standup Project Management Lifecycle Documentation, Volume 3 Execution Phase, Books 1-4.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

General Goal 2: Nuclear Nonproliferation

Provide technical leadership to limit or prevent the spread of materials, technology, and expertise relating to weapons of mass destruction; advance the technologies to detect the proliferation of weapons of mass destruction worldwide; and eliminate or secure inventories of surplus materials and infrastructure usable for nuclear weapons.

Summary of FY 2004 Annual Performance Targets

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
25.5	8.5	3	0

FY 2004 Program Costs ($ in Millions): Goal 2 Costs: $1,101
FY 2003 Program Costs ($ in Millions): Goal 2 Costs: $ 968

PROGRAM GOAL:

NN GG 2.40

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
	✓		

NONPROLIFERATION VERIFICATION RESEARCH AND DEVELOPMENT: Develop new technologies to improve U.S. Government capabilities to detect and monitor nuclear weapons production and testing worldwide.

Commentary: The Nonproliferation Verification Research and Development program has achieved their goal in developing new technologies to improve U.S. Government capabilities to detect and monitor nuclear weapons production and testing worldwide. The one goal not fully met is due to the lack of available subject matter experts. To resolve this issue, the program is actively recruiting the necessary technical independent reviewers.

Associated Annual Target for FY 2004

NN GG 2.40.3

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
✓			

Number of advanced technologies and operational systems (e.g. satellite payloads and seismic station calibration data sets) delivered to U.S. national security users which improves the accuracy and sensitivity of nuclear weapon test monitoring.

Annual Target: 6 (FY03 - 4).

Commentary: Target exceeded. Through 4th Q, 7 were completed. Two calibration data sets were delivered to operational users in November 2003. Two other data sets were delivered from the LLNL and LANL scientific integrators to the knowledge integrators at SNL in June. These were delivered to the operational users in July. For the space-based program, three operational systems were delivered. The Global Positioning System (GPS) Block IIF Global Burst Detection payload was delivered to the satellite contractor on schedule at the end of June. The demonstration/validation experiment for the enhanced Bahngmeter was launched on June 23.

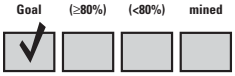
Supporting Documentation: Supporting documentation includes the contract deliverable documents: SNL quarterly progress reports and SNL pre-shipment readiness reviews.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

NN GG 2.40.5 Number of professional papers/exchanges presented – each representing Science and Technology knowledge and U.S. leadership in program area.



Annual Target: 200 (FY03 - 250).

Commentary: Target exceeded. Through 4th Q, completed total of 202 papers. 93 papers are from the remote sensing group, 28 papers from proliferation detection and 30 papers from ground based nuclear explosion monitoring. 51 papers were presented at the Seismic Research Review (SRR) held in September of 2004.

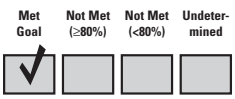
Supporting Documentation: Supporting documentation includes project conceptual, design analysis, and test documentation.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

NN GG 2.40.7 Number of advanced radiation and remote sensing technologies developed and evaluated through customized tests which challenge and characterize their operating parameters. These advanced technologies are intended to improve U.S. accuracy in detecting the early stages of nuclear weapon programs.



Annual Target: 7 (FY03 - 4).

Commentary: Target exceeded. Through 4th Q, 9 were completed. In 4Q, two field tests were conducted. The "Portable Automated Sampler of the PUREX Process" field test took place on August 11, 2004 at the Nevada Test Site as part of the Roadrunner III series of experiments. A report detailing the experiment plan, samples collected and preliminary results was received on August 24, 2004. Analysis of the samples is continuing (during September 2004) and a full report will be submitted in early FY 2005. A uranium release experiment was conducted. The release within the F-Cell of 224-U was conducted on August 30 at 1550. These Infrared systems are being developed for NA22 under project PL211I.

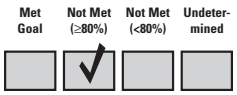
Supporting Documentation: Supporting documentation includes The utility of FM DIAL for Proliferation Detection report.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

NN GG 2.40.8



Annual percentage of all active R&D projects for which an independent R&D merit assessment has been completed within the last 3 years to determine the scientific quality and continued user and mission relevance.

Annual Target: 40% (FY03 - 20%).

Commentary: Target not fully met. Through 4th Q, accomplished 37% (69/185) of the established target of 40%.

Supporting Documentation: Supporting documentation includes independent assessment/team members review of project plans, and technical and administrative supporting documents (e.g. life cycle plans, orders, directives, etc.).

Plan of Action: The independent review process has expanded to include an additional program area. To meet this increased objective, new independent reviewers are being recruited (throughout FY04 and FY05) with the necessary subject matter expertise to support this new program area.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Additional Targets from 2003-2001

FY 2003

- Demonstrate prototype commercial cargo inspection system to detect fissile materials and high explosives (NS 2-1a).
  Assessment: MET

- Provide two assays for biological threat agents to the Center for Disease Control Laboratory Response Network (NS 2-1b).
  Assessment: MET

- Work with U.S. Customs personnel to familiarize them with nuclear equipment, material, and technology, and to improve real-time analysis of suspect shipments (NS 2-2b).
  Assessment: MET

- Expand bilateral physical protection visits, physical protection training, and the IAEA's International Physical Protection Advisory Service to help protect WMD facilities around the world against terrorist attack and sabotage (NS 2-2c).
  Assessment: MET

FY 2002

- Field a demonstrated, deployable prototype biological threat detection system at the Winter Olympics.
  Assessment: MET

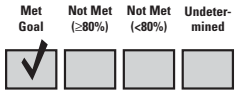
- Expand cooperation with other states and U.S. Customs to improve export control capabilities.
  Assessment: MET

FY 2001

- There were no additional targets in FY 2001.

PROGRAM GOAL:

NN GG 2.41

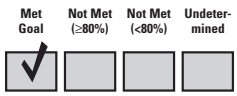


HEU TRANSPARENCY IMPLEMENTATION: Assurance that the LEU being purchased under the 1993 U.S./Russian HEU Purchase Agreement is derived from HEU extracted from dismantled Russian nuclear weapons, by developing and implementing mutually agreeable transparency measures to ensure that the 500 MT of HEU covered by the Agreement is permanently down blended and eliminated from Russian inventory.

Commentary: All FY04 targets fully met providing adequate assurance that the LEU being purchased under the 1993 U.S./Russian HEU Purchase Agreement is derived from HEU extracted from dismantled Russian nuclear weapons.

Associated Annual Target for FY 2004

NN GG 2.41.1



Number of Blend-Down Monitoring Systems (BDMS) operational and the annual percent of operation during the HEU blend-down process.

Annual Target: Two Blend-Down Monitoring Systems with an annual percent of operation targeted for 94%.

Commentary: Target was exceeded. BDMS systems are operational at two (2) plants: the Ural Electrochemical Integrated Plant (UEIP) and Electrochemical Plant (ECP). Analysis of data for October through August indicates that system operability was 100%. Data for September was obtained during Special Monitoring Visits in October 4-8 (UEIP) indicating system operability in September at UEIP. However, the overall system operability at both sites is 23/24 or 96%. This is important because high system operational capability provides for more blend down operations.

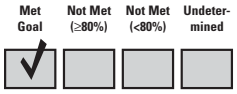
Supporting Documentation: FY04 BDMS System Availability table.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

NN GG 2.41.2 Percentage completed of the 24 annually allowed Special Monitoring Visits (SMVs) to the four Russian HEU-to-LEU processing facilities to monitor 30 MT per year of HEU converted to LEU completed.



Annual Target: Conduct 22, 92%, of 24 allowed visits.

Commentary: Target exceeded as 100% of the 24 allowed visits were conducted. This accomplishment is significant because Special Monitoring Visits (SMVs) are one of the most important monitoring rights negotiated related to the HEU Purchase Agreement. SMVs are critical to program activities to acquire transparency data and provide assurance that HEU is being processed as declared and that HEU is being eliminated from the Russian stockpile. They are our only means to access and acquire BDMS output reports.

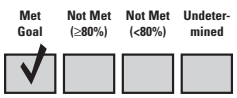
Supporting Documentation: Evidence of these results are documented in the Trip History Report listing all locations/dates for all SMVs completed in FY04. Also, individual trip reports are available for all completed SMVs.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

NN GG 2.41.3 Percentage of the year that the on-site Transparency Monitoring Office (TMO), is staffed at the Ural Electrochemical Integrated Plant.



Annual Target: TMO coverage of plant operating schedule at 75% (FY03-70%).

Commentary: Target exceeded as the Transparency Monitoring Office (TMO) was staffed 80% of the time (201 staffing days over 251 plant operation days). This accomplishment is significant because the TMO is one of the rights that were negotiated related to the HEU Purchase Agreement. Monitors operating from the TMO are critical to program activities since they have daily plant access to acquire transparency data and provide assurance that HEU is being processed as declared and that HEU is being eliminated from the Russian stockpile.

Supporting Documentation: Evidence of these results are documented in the Comparison of FY04 TMO Staffing and Plant Operations Days.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

PROGRAM GOAL:

NN GG 2.42

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
		✓	

ELIMINATION OF WEAPONS-GRADE PLUTONIUM PRODUCTION (EWGPP) REACTORS: Reduce the threat of nuclear terrorism by facilitating shutdown of the three remaining weapons-grade plutonium production reactors in the Russian Federation through: (1) construction of a new fossil-fuel (coal) plant at Zheleznogorsk; (2) refurbishment of an existing fossil-fuel (coal) power plant at Seversk; and (3) execution of a nuclear safety upgrades project to improve reactor safety pending shutdown of the reactors.

Commentary: FY04 results reflect that the EWGPP program remains on schedule, despite a slight delay to the Seversk program, which will be recovered through the efforts described in the Action Plan. The program's overall FY 2004 rating is a result of the Russian termination of the U.S. interim Nuclear Safety Upgrades project, the third portion of this program. The Russians will accomplish this project themselves, and the elimination of this project will not affect the goals to shutdown the three reactors. Because the score for the Safety upgrades measure is zero, the overall rating for EGWPP is red, even though the other two measures are green and yellow.

Associated Annual Target for FY 2004

NN GG 2.42.1

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
	✓		

Percentage of progress towards constructing a fossil plant in Seversk facilitating shut down of two weapons-grade plutonium production reactors.

Annual Target: Complete 16% of the construction (FY03 - 1%).

Commentary: The target was partially met as only 12.9% of the construction of the Seversk fossil fuel plant was completed (vs. the target of 16% of construction completed). These results were calculated using the Earned Value Management equation for percentage of construction completed. This calculation is Budgeted Cost of Work Performed (in this case $22M inclusive of long-lead procurement) divided by Budgeted Cost of all work at Completion of Construction (in this case $171M). Note: All activities budgeted and planned for FY04 were completed as scheduled, however, an increase adjustment in the Budgeted Cost of all work at Completion of Construction resulted in a reduction to the percentage of construction completed to date.

Supporting Documentation: Source Document for obligations reference Washington Group International, Contract No. DTRA01-01-D-0012, Task Order No. DE-AT52-03NA99067, Revision 013, Monthly Progress Report, September, 2004).

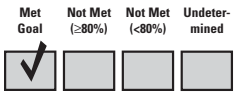
Plan of Action: The Seversk project obligated about $82M through September 28, 2004. These additional funds have been authorized for the first quarter of FY 2005. Further obligations of $39.5M are anticipated in FY05, which will allow the project to meet the planned FY 2005 target completion. In addition, the Seversk project is scheduled for Critical Decision 2, Approval of Performance Baseline, in the first quarter of FY 2005.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

NN GG 2.42.2 Percentage of progress towards constructing a fossil plant in Zheleznogorsk facilitating shut down of one weapons-grade plutonium production reactor.



Annual Target: Complete 3% of the construction.

Commentary: The target was exceeded as 5% of the construction of the Zheleznogorsk fossil fuel plant was completed (vs. the target of 3% of construction completed). These results were calculated using the Earned Value Management equation for percentage of construction completed. This calculation is Budgeted Cost of Work Performed (in this case $14.9M) divided by Budgeted Cost of all work at Completion of Construction (in this case $295M).

Supporting Documentation: Source Documentation for obligations reference Zheleznogorsk Plutonium Production Elimination Project, Cost Performance Report, September 2004.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

NN GG 2.42.3 Percentage of progress towards completing interim safety upgrades to the three operating Russian plutonium production reactors.

Annual Target: Complete 14% of the safety upgrades (FY03 - 5%).

Commentary: Project cancelled based on Feb 18 letter from Minatom 1st Deputy Minister Borovkov. The Russians have notified DOE/NNSA that they plan to fully fund interim safety upgrades. Therefore, the project's resources will be reallocated to the Seversk and Zheleznogorsk fossil fuel plant construction in accordance with baseline adjustments that are underway on those two projects.

Supporting Documentation: N/A

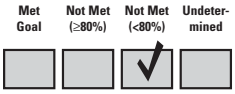
Plan of Action: Since the Russians formally declared they will do this work without U.S. assistance, this performance measure will be eliminated in FY05.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

PROGRAM GOAL:

NN GG 2.44

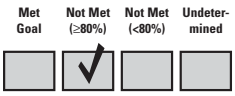


NONPROLIFERATION AND INTERNATIONAL SECURITY: Detect, prevent, and reverse the proliferation of weapons of mass destruction (WMD) materials, technology, and expertise, and to strengthen the nonproliferation regime.

Commentary: The Nonproliferation and International Security program has achieved a significant portion of their goal in detecting, preventing, and reversing the proliferation of weapons of mass destruction. The one goal that is identified in "red" is still under negotiation in terms of the purchase price of HEU fuel for U.S. research reactor use. Because the score for the HEU fuel purchase measure is zero, the overall rating for the NIS program is red, even though three of the other four measures are green and one is yellow.

Associated Annual Target for FY 2004

NN GG 2.44.1



Cumulative percentage of work completed on 98 targeted research and test reactor cores converted from high enriched uranium (HEU) to low enriched uranium (LEU).

Annual Target: Convert 42% of 98 reactors (39%).

Commentary: This target was partially met as 40% (39 of 98) of the targeted reactors have been converted. This achievement is significant because once these research and test reactors are converted from HEU to LEU cores they no longer pose a nuclear proliferation threat.

Supporting Documentation: Evidence of these results are documented in a Table, titled "U.S. Supplied Research and Test Rectors Formally Using HEU That Have Been Fully or Partially Converted to LEU Fuel in the Reduced Enrichment Research and Test Reactor (RERTR) Program", of an Argonne National Laboratory letter of June 17, 2004.

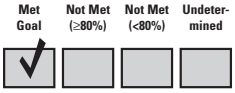
Plan of Action: The FY04 target of 42% of 98 reactors equates to 41 reactors converted. The 2 reactors not converted in FY04 will be completed along with another reactor by FY05/Q4.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

NN GG 2.44.2



Annual number of safeguards or physical protection courses conducted.

Annual Target: Conduct nine physical protection courses.

Commentary: Target exceeded. Five of the nine FY04 physical protection courses were conducted in 1Q. Three courses were conducted in the 2Q, five courses were conducted in 3Q and three more were conducted in the 4Q. The program exceeded the goal with a total of 16 training courses or workshops conducted. This is important because it educates experts worldwide in the fundamentals of nuclear non-proliferation.

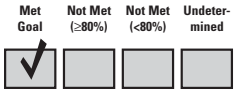
Supporting Documentation: Trip reports were received and verify completion of the workshops.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

NN GG 2.44.3 Annual percentage of U.S. exports reviewed for proliferation concern.



Annual Target: Review 100% of U.S. nuclear-related transfers, and 60% of missile technology and chemical and biological -related exports.

Commentary: Target fully met. The organization has met the target to review WMD related export licenses for proliferation concern. This is important because DOE provides nuclear expertise to US Customs reviewing officials.

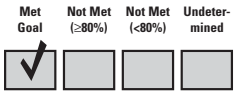
Supporting Documentation: Based on data in PINS, in the 4th Quarter, 1,729 export license applications were received and 100% completed a technical review. Based on data in PINS, in the 4th Quarter, 1,729 export license applications were received and 100% completed a technical review.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

NN GG 2.44.4 Cumulative number of cooperative agreement actions completed.



Annual Target: Complete 15 actions.

Commentary: Target exceeded. 19 actions have been completed. Cooperative agreement actions are usually officially completed during annual meetings with international partners. Two additional meetings took place in the forth quarter, adding to the third quarter action of 17. This is significant because DOE provides advanced nuclear safeguards technology to foreign governments to better protect civilian nuclear facilities.

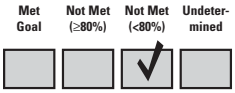
Supporting Documentation: Monthly reports from the field indicate the completion of this action.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

NN GG 2.44.5 Cumulative kilograms of HEU purchased and delivered.



Annual Target: 177 kgs HEU (new baseline).

Commentary: Target not met, with 0 kg HEU delivered. Purchase price remains an unresolved issue with Russia.

Supporting Documentation: Supporting document is the July 23, 2004 letter from NNSA Deputy Administrator Longsworth to Mr. Kuchinov of Rosatom.

Plan of Action: Awaiting response from Rosatom on latest (7/26/04) U.S. pricing offer to purchase HEU for U.S. research reactor fuel use. NA-23 plans to coordinate with U.S. Embassy-Moscow to get Russian feedback and formal reply in October 2004.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Additional Targets from 2003-2001

FY 2003

- Demonstrate a fixed system to protect complex, key infrastructure facilities, components, and capabilities (NS 2-1c).
  Assessment: MET

- Successfully complete and close down the Soviet-designed reactor safety program (NS 2-4a).
  Assessment: Met at or above 80% but less than 100% of the Target

- Evaluate and prioritize nuclear safety concerns at nuclear power plants, research reactors and non-reactor nuclear fuel cycle facilities, and prepare needs assessments for technology transfers of nuclear safety methods based on risk with potential participant countries (NS 2-4b).
  Assessment: Met at or above 80%, but less than 100% of the Target

- Expedite the retrieval of spent nuclear fuel from Central Asia (NS 2-2a).
  Assessment: Met at or above 80% but less than 100% of the Target

FY 2002

- Develop a small nuclear safety pilot program between the U.S. Department of Energy and the Vietnamese Atomic Energy Commission.
  Assessment: MET

FY 2001

- Demonstrate systems to protect key infrastructure and special events from chemical and biological attacks.
  Assessment: MET

- Complete safety parameter display systems for Ukraine's South Ukraine nuclear plant unit 3, and Zaporizhzhya nuclear plant units 2 and 4.
  Assessment: MET

- Complete implementation of symptom-based emergency operating instructions at the Ignalina plant in Lithuania.
  Assessment: MET

- Complete comprehensive upgrades on an additional eight percent of 850 metric tons (MTs) of weapons-usable nuclear material raising the total to almost 21% secured at 95 sites in Russia.
  Assessment: Nearly Met Goal

PROGRAM GOAL:

NN GG 2.45

Met Goal ☑ | Not Met (≥80%) ☐ | Not Met (<80%) ☐ | Undetermined ☐

RUSSIAN TRANSITION INITIATIVE (RTI): Prevent adverse migration of weapons of mass destruction expertise by engaging weapons experts in peaceful efforts and by helping to downsize the Russian nuclear weapons complex.

Commentary: The Russian Transition Initiative program has fully met the goals of preventing adverse migration of weapons of mass destruction expertise by engaging weapons experts in peaceful efforts and by helping to downsize the Russian nuclear weapons complex. The program has engaged 8,200 experts, created 16 new business lines, and converted weapons equipment for commercial use at Zheleznogorsk.

Associated Annual Target for FY 2004

NN GG 2.45.1

Met Goal ☑ | Not Met (≥80%) ☐ | Not Met (<80%) ☐ | Undetermined ☐

Annual number of former Soviet Weapons scientists, engineers, and technicians engaged.

Annual Target: 7,900.

Commentary: Target has been exceeded as 8, 200 former Soviet scientists, engineers and technicians were engaged (300 more than the FY2004 target). This is important because these scientists are less motivated to use their WMD skills for a livelihood with other rogue nations or terrorists.

Supporting Documentation: This is being tracked by the payment mechanism through the CRDF and the International Science and Technology Center (ISTC).

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Enhance nonproliferation efforts in the Russian nuclear cities, and accelerate several Russian technology development efforts that have clear counter-terrorism or terrorism response applications under the Russian Transition Initiatives (NS 2-3c).
  Assessment: MET

FY 2002

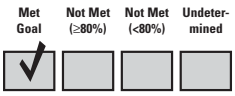
- Engage 2,500 former WMD scientists on cooperative commercial projects.
  Assessment: MET

FY 2001

- Engage approximately 2,000 scientists, engineers, and technicians at nuclear NIS institutes and approximately 800 scientists, engineers and technicians at NIS chemical/biological institutes in 40 projects to provide long-term commercial employment.
  Assessment: MET

Associated Annual Target for FY 2004

NN GG 2.45.2 Cumulative number of technologies commercialized or businesses created.



Annual Target: 21 technologies commercialized or businesses created.

Commentary: Target fully met. Dormash Road Repair Manufacture in Sarov completely self-sustainable, Atomlink ISP self sustaining and profitable in Zheleznogorsk, Kraspan energy efficient wall panels business created and profitable in Zheleznogorsk, Pharmaceutical Production in Snezhinsk begun in pilot phase. Ulba Metallurgical Plant in Kazakhstan has developed two new commercial product lines (beryllium-copper alloys, uranium concentrate recovery), and developed software for Nuclear Power Plant Simulator model at Sarov Open Computing Center. Annual goal for FY 2004 is one new technology commercialized or businesses created. This is important because these technologies are an alternative to WMD production. Year to date the program has completed 16 new business lines for a total of 36.

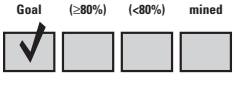
Supporting Documentation: This was verified through the Management Information System for RTI projects.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

NN GG 2.45.3 Cumulative percentage of nuclear complex reduction targets at six weapons facilities and complete.



Annual Target: Complete 53% of all targets.

Commentary: Target fully met. FY2004 results - 53% - includes Niobium metal production business assessment, which will use PUREX nuclear weapons equipment for commercial purposes in Zheleznogorsk. This is important because it eliminates WMD production infrastructure.

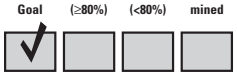
Supporting Documentation: This was verified through monthly reports from the laboratories.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

NN GG 2.45.4 Annual percentage of non-U.S. Government (USG) funding contributions obtained.



Annual Target: Obtain non-USG funding contributions equal to 60% of RTI project funds ($24 million).

Commentary: Non-USG funding exceeded the target of 60% of $24 million. Russian and Global Partnership contribution is increasing, including for All Russian Scientific Research Institute of Experimental Physics (VNIIEF)-Conversia Projects in Sarov, UK-CNCP funding energy Savings and IDC activities in Snezhinsk. Ten newly approved scientist engagement projects have 100% U.S. industry partner matching funds. This is important because it transitions these efforts to non-USG funding.

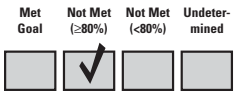
Supporting Documentation: Survey conducted by United States Industry Coalition (USIC) (for venture capital and other investment in Initiatives for Proliferation Prevention (IPP) projects) and national laboratory Cooperative Research and Development Agreements (CRADAs) with U.S. industry partners, verifies the completion of this target.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

PROGRAM GOAL:

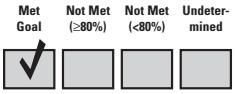
NN GG 2.46 *INTERNATIONAL MATERIALS PROTECTION AND COOPERATION*: Prevent nuclear terrorism by working in Russia and other regions of concern to (1) secure and eliminate vulnerable nuclear weapons and weapons-usable material; (2) locate, consolidate and secure radiological materials that can be used in a dirty bomb; and (3) install detection equipment at border crossings and Mega-Seaports to prevent and detect the illicit transfer of nuclear material.



Commentary: Efforts to prevent nuclear terrorism in Russia and other regions of concern remain on track. Significant accomplishments during FY 2004 included: exceeding/achieving targets for the security of the Russian warhead sites; achieving the target for the security of comprehensive MPC&A upgrades on weapons-usable nuclear material; exceeding the target for the security of Radiological Dispersal Devices; converting a cumulative total of 20% of the 17 MTs of surplus HEU to LEU; and completing installation of radiation detection equipment to detect nuclear smuggling at a total of 66 sites in the world including 2 Megaports.

Associated Annual Target for FY 2004

NN GG 2.46.1 Percentage of 39 Russian Navy warhead sites secured.



Annual Target: Secure 85% of the sites.

Commentary: Exceeded target by securing a cumulative total of 87% of the Russian Navy warhead sites, 2% (1 site) above the target for a cumulative total of 34 sites. This is important because it better secures a significant WMD proliferation threat.

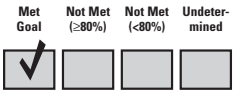
Supporting Documentation: Contract deliverable documents including photos, periodic site visits and assurance reports.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

NN GG 2.46.2 Percentage of 25 Russian Strategic Rocket Forces sites secured.



Annual Target: Secure 8% of the sites.

Commentary: Met target by securing a cumulative total of 8% (2 sites) of the Strategic Rocket Forces sites. This is important because it better secures a significant WMD proliferation threat.

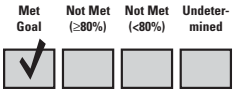
Supporting Documentation: Contract deliverable documents including photos, periodic site visits and assurance reports.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

NN GG 2.46.3 Percentage of 600 MTs of weapons-usable nuclear material secured.



Annual Target: Secure 26% of the material.

Commentary: Target met, secured 26% of the material. This is important because it better secures a significant WMD proliferation threat.

Supporting Documentation: Completed task order deliverables, site visits, and assurance reports.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

NN GG 2.46.4 Percentage of 27 MTs of HEU converted to LEU.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undeter-mined
	✓		

Annual Target: Convert 24% of the material (FY03 - 16%).

Commentary: Target not met, converted a cumulative total of 20% of HEU to LEU. This is due to an insufficient amount of feed material made available for blend down at Scientific Research Institute of Atomic Reactors (RIAR). This is important because it eliminates a significant WMD proliferation threat.

Supporting Documentation: Supporting documentation includes the Material Consolidation and Conversion project Down blending Conversion Summary.

Plan of Action: The blend down contract at RIAR was amended to assist the site in obtaining a greater amount of HEU feed for conversion. RIAR has reported that this has been successful in increasing the amount of feed material available and in increasing the conversion rate. Program expects to meet the FY04 target of 24% of 27 MTs (or 6.5 MTs) of HEU converted to LEU by FY05/Q3.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

NN GG 2.46.5 Cumulative number of Radiological Dispersal Devices (RDD) sites secured.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undeter-mined
✓			

Annual Target: Secure 35 sites.

Commentary: Target exceeded by securing a cumulative total of 69 RDD sites, well above the FY 2004 target of 35 sites. This is important because it better secures a potential proliferation threat.

Supporting Documentation: Contract deliverables received, i.e. status reports, pictures etc.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

NN GG 2.46.6 Cumulative number of Second Line of Defense (SLD) sites with nuclear detection equipment installed.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
	✓		

Annual Target: Install equipment at 74 sites (FY03 - 39).

Commentary: Target not met; completed a total of 27 sites (66 cumulative) including 2 Megaports, 20 sites in Russia, 1 in Lithuania, and 4 in Greece for a total 25 Core Program sites, verse the target of 74 sites. This is due to the length of time taken by foreign governments to review and approve agreement language. This program is important because it improves US capabilities to detect elicit WMD transport far from the US homeland.

Supporting Documentation: All sites can be verified as completed via the documentation of an Acceptance Testing Report.

Plan of Action: Kazakhstani government approval of Implementing Agreement (IA) is still underway. In addition, US DOS has identified a requirement for another exchange of Diplomatic Notes that must precede completion of IA. Awaiting comments from Ukrainian Border Guards on proposed Implementing Agreement, and DOE is pursuing other potential IA options. Slovenia is awaiting European Commission endorsement of SLD Program before ratification of Implementing Agreement. SLD Management is working with Brussels to address this issue. For Megaports, commitments by foreign governments to participate (i.e., negotiation and signature of Memoranda of Understanding or "MOU") coming more slowly than anticipated, however, MOU was signed with Sri Lanka in late FY 04. Implementation of Initiative at Port of Colombo is in process. Additionally, the program has engaged with 23 governments on the Megaports Initiative. Agreements with at least six countries appear to be nearing completion. Pace of implementation should increase in first quarter, FY 05 as MOUs with foreign governments are signed.

Related Annual Targets (FY 2003 - FY 2001)

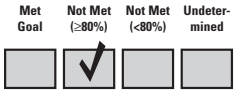
FY 2003
- There were no related annual targets in FY 2003.

FY 2002
- Accelerate the rapid and comprehensive upgrades on at-risk plutonium, highly enriched uranium, and Naval nuclear weapons at Russian sites and Second Line of Defense deployments.
  Assessment: MET

FY 2001
- There were no related annual targets in FY 2001.

Associated Annual Target for FY 2004

NN GG 2.46.7 Annual percentage of buildings scheduled for completion of security upgrades in a year that are done on time.



Annual Target: Complete upgrades on 100% of the buildings scheduled for FY 04.

Commentary: Target was not met as only 92.9% (26 of 28 buildings) of the originally scheduled buildings were completed on-time compared with the stated target of 100%. However, NNSA exercised its management prerogative and accelerated the completion in FY 2004 of an additional 12 buildings not previously scheduled for completion until after FY2004. As a result of NNSA management initiative, 38 buildings were completed in FY 2004, a 35.7% increase to the originally stated target.

Supporting Documentation: Completed task order deliverables, site visit reports, and assurance reports.

Plan of Action: The 2 remaining buildings originally scheduled for completion in FY 2004 are on-track to be completed during FY 2005.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Additional Targets from 2003-2001

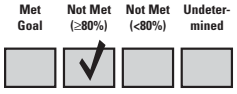
FY 2003
- Install Material Protection Control and Accountability (MPC&A) upgrades on nuclear weapons and materials, eliminate weapons-usable materials, and consolidate the number of storage locations for weapons-usable materials into fewer building and sites to improve security in Russia (NS 2-3b).
  Assessment: Met at or above 80% but less than 100% of the Target

FY 2002
- There were no additional targets in FY 2002.

FY 2001
- There were no additional targets in FY 2001.

PROGRAM GOAL:

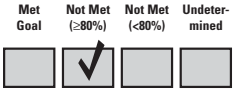
NN GG 2.47 *FISSILE MATERIAL DISPOSITION*: Eliminate surplus Russian plutonium and surplus U.S. plutonium and HEU.



Commentary: The program has downblended or shipped for downblending a cumulative total of 65 MT of U.S. surplus HEU. The program is also nearing the completion of the design of the U.S. MOX facility and is working with Russian on the design of its MOX facility.

Associated Annual Target for FY 2004

NN GG 2.47.1 Percentage of the design and construction of the Pit Disassembly and Conversion Facility (PDCF) completed.



Annual Target: Complete 85% of the detailed design (FY03 - 60%).

Commentary: Target not met, only 83% of the detailed design is complete due to the LANL shutdown, which delayed the process design support work, and reprogramming delays in January/February time frame, which caused the PDCF project to suspend design work due to lack of funding. This facility is important because it will reduce and secure the excess US nuclear stockpile material.

Supporting Documentation: Performance measure reported in monthly Earned Value Management System reports prepared by design contractor.

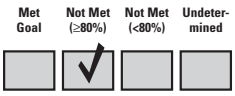
Plan of Action: Will meet the 85% target by the end of FY05/1Q and will be on track to meet the 100% design target by FY05/4Q.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

NN GG 2.47.3 Percentage of the design and construction of the MOX Fuel Fabrication Facility completed.



Annual Target: Complete 100% of the detailed design (FY03 - 75%).

Commentary: Target not met, only 90% of the detailed design has been completed. This work has been delayed because the September 2000 Plutonium Management and Disposition Agreement states that the U.S. and Russian programs to dispose of 34 MT of surplus weapons-grade plutonium should proceed in rough parallel. The Russian plutonium disposition program has been delayed due to an inability to resolve disagreements regarding liability protections for U.S. work done in Russia. As a result, the start of construction of both U.S. and Russian MOX facilities has been delayed from June 2004 to May 2005. Despite this delay, the Administration remains committed to this important nonproliferation program, and is working on the resolution of this issue at the highest levels.

Supporting Documentation: Performance measure reported in monthly Earned Value Management System reports.

Plan of Action: NNSA and Duke, Cogema, Stone & Webster (DCS) have established a task force to identify and implement actions necessary to ensure completion of 100% of the licensable design by the end of FY05/1Q.

Related Annual Targets (FY 2003 - FY 2001)

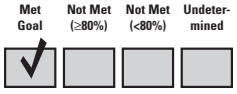
FY 2003
- Complete Title II (detailed) design of the Mixed Oxide Fuel Fabrication Facility for disposition of excess U.S. weapons-grade plutonium, and commence down blending of off-specification highly enriched uranium at the Savannah River Site (NS 2-3a).
  Assessment: Met less than 80% of the Target

FY 2002
- Develop a plan for U.S. and Russian plutonium disposition that is politically, fiscally, and technically feasible, and obtain White house approval.
  Assessment: MET

FY 2001
- The siting decision for plutonium disposition facilities is implemented based on the Record of Decision in FY 2000.
  Assessment: MET

Associated Annual Target for FY 2004

NN GG 2.47.4 Amount of HEU shipped to the United States Enrichment Corporation (USEC) for down-blending.



Annual Target: Ship an additional 11 metric tons (MT) for a total of 45MT.

Commentary: Target fully met by shipping an additional 11MT to USEC for downblending. This includes ~8MT of HEU metal and ~3MTU of HEU oxide shipped from the Y-12 National Security Complex to the USEC contractor for down blending in FY04. This is important because it will reduce excess US nuclear material.

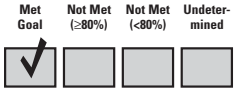
Supporting Documentation: Performance measure reported in monthly receipt reports provided by BWX Technologies Nuclear Products Division.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

NN GG 2.47.5 Amount of off-specification HEU down-blended.



Annual Target: Down-blend ~ 9.0MT for a total of 12.7 MT.

Commentary: Target exceeded by downblending 10 MT HEU at Savannah River Site (SRS). In addition, NA-26 has delivered ~4.3 MT of resulting LEU and surplus HEU to the Tennessee Valley Authority (TVA). This is important because it will reduce excess US nuclear material.

Supporting Documentation: Performance measures reported in monthly reports provided by Nuclear Fuel Services and SRS.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

NN GG 2.47.6 Russianize the design and construct the MOX Fuel Facility in Russia.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
		✓	

Annual Target: Complete 60% of the Russianization of the design (FY03 - 10%).

Commentary: Target not met only 15% of the Russianization of the design has been completed. Russianization of the U.S. MOX facility design is being delayed as a result of an inability of the U.S. and Russia to agree on liability provisions for contractors working in Russia. This is important because it will reduce excess Russian nuclear material.

Supporting Documentation: Performance measure reported in monthly contractor progress reports.

Plan of Action: State and DOE have established interim arrangements with the French Government to facilitate the transfer of limited design information to permit licensing, but not construction, of the Russian MOX facility.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

PROGRAM GOAL:

NN GG 2.62

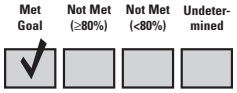
Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
✓			

OFF-SITE SOURCE RECOVERY PROGRAM: Recover excess and unwanted sealed sources on a priority basis, determined by the U.S. Nuclear Regulatory Commission in consultation with the Department of Energy, to reduce and ultimately eliminate the risk these sources pose to homeland security by their possible use in a radiological dispersal device. The Off Site Source Recovery (OSRP) reduces this risk by removing excess and unwanted sources from non-Department of Energy sites and placing these sources in storage at Department of Energy facilities.

Commentary: The OSR Program exceeded both internal NNSA and congressionally mandated targets by achieving 10,022 cumulative radioactive sealed sources recovered during FY 2004. This achievement included specific high-profile work achieved in cooperation with the Nuclear Regulatory Commission and Department of Homeland Security: (1) conducting the most complex recovery to date by removing 480 sources from a bankrupt firm in Pennsylvania, (2) conducting the largest recovery to date by removing 60,000 curies of strontium-90 from the Houston area ahead of February's Superbowl, and (3) recovering 68 high-risk sources prior to this summer's political conventions in Boston and New York City.

Associated Annual Target for FY 2004

NN GG 2.62.1 Cumulative number of excess and unwanted sealed sources recovered.



Annual Target: Recover approximately 8,500 sealed sources.

Commentary: Target exceeded recovering 10,022 sources verses the FY 2004 target of 8,500 sealed sources. This is important because it removes a potential "dirty bomb" threat.

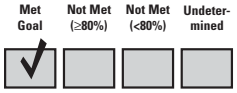
Supporting Documentation: Bi-weekly reports on source recovery provided by Los Alamos National Laboratory.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

NN GG 2.62.2 Cumulative number of Department of Energy – owned loan-lease plutonium-239 beryllium sources recovered.



Annual Target: Recover 250 DOE-owned Plutonium (Pu)-239 sources.

Commentary: Target exceeded by recovering 265 plutonium-239 sources. This is important because it removes a potential "dirty bomb" threat.

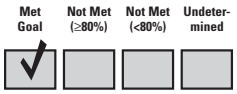
Supporting Documentation: Bi-weekly reports on source recovery provided by Los Alamos National Laboratory.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

NN GG 2.62.3 Annual ratio of sources recovered in a year over the number of known excess sources at the beginning of that year Risk Reduction Efficiency Factor (RREF). The goal is to recover more sources in a year than were known at the beginning, for an RREF > 1.



Annual Target: At least 0.8.

Commentary: Target fully met by achieving a Risk Reduction Efficiency Factor (RREF) annual target of 1.071. At the beginning of FY 2004, we were aware of 2,515 sources that needed to be recovered. Through the forth quarter of FY 2004 we have recovered 2,693 sources for an RREF of 1.071. This is important because it removes a potential "dirty bomb" threat.

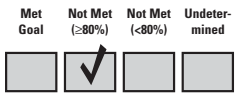
Supporting Documentation: Bi-weekly reports on source recovery provided by Los Alamos National Laboratory.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

PROGRAM GOAL:

NN GG 1/2 50

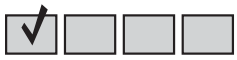


OFFICE OF THE ADMINISTRATOR: This Program Goal is shared with DP GG 1/2 50. Create a well-managed, diverse, inclusive, responsive, and accountable organization through the strategic management of human capital; enhanced cost-effective utilization of information technology; and greater integration of budget and performance data.

Commentary: Efforts remain on-track to achieve this program goal. Significant achievements during FY2004 included exceeding targets for reduction of NNSA federal staff, reduction is staffing vacancies and surplus employees, average PART scores, and awarding strategic sourcing contracts. IT targets were fully met and leadership targets were intentionally delayed two months into FY 2005 to take advantage the completion of the final stages of the NNSA reorganization.

Associated Annual Target for FY 2004

NN GG 1/2 50.1 (This Annual Target is shared with DP GG 1/2 50.1) Number of NNSA Federal employees.



Annual Target: 1,705 Federal employees (FY03 - 1,768).

Commentary: The target was exceeded as the end of year FY 2004 NNSA Federal staffing level for the Office of the Administrator account was 1,663. This achievement is important because it represents a reduction of 340 employees from FY 2002, a decrease of 17.0%.

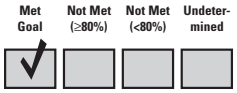
Supporting Documentation: Evidence of these results are documented in the NNSA Staffing Summary document prepared by NA-64, NNSA Office of Human Resources.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

NN GG 1/2 50.2 (This Annual Target is shared with DP GG 1/2 50.2) Annual NNSA Employment Efficiency Index to measure effectiveness in filling needed positions in accordance with approved Managed Staffing Plans.



Annual Target: 72% (new baseline).

Commentary: The target was exceeded as NNSA achieved an index of 97.1%. This achievement is important because NNSA continues to fill critical and noncritical vacancies and reduce surplus employees at a steady pace. The index may fluctuate when Managed Staffing Plans are revised to identify additional critical needs.

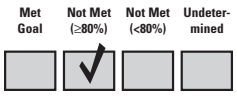
Supporting Documentation: Evidence of these results are documented in the "NNSA Employment Efficiency Index" prepared by the NNSA Office of Human Resources (NA-64). All information is based on the approved Managed Staffing Plans (MSPs).

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

NN GG 1/2 50.3 (This Annual Target is shared with DP GG 1/2 50.3) Percentage of NNSA employees who are aware that they can take a leadership role in fostering a diverse and inclusive workplace.



Annual Target: Develop NNSA's diversity leadership metrics and baseline.

Commentary: The target was unmet as only 85% of baselining activities were completed. Career coaching and follow up of 2003 Diversity Leadership Skills Training currently is in process and all other activities were completed on-time except the organizational assessment that was projected for September. Ambassador Brooks requested that the organizational assessment be conducted in November after the largest part of the NNSA reorganization is completed. This achievement is important to increase NNSA diversity and working environment.

Supporting Documentation: Evidence of these results are documented in the NNSA Diversity Demographic Analysis information is obtained quarterly from the DOE Info System which is updated on a continuous basis by NNSA's Office of Human Resources.

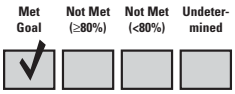
Plan of Action: Complete the organizational assessment in November (2 months late) as requested by Ambassador Brooks so it will come after the largest part of the NNSA reorganization is completed.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

NN GG 1/2 50.4 (This Annual Target is shared with DP GG 1/2 50.4) Average NNSA program score on the OMB PART assessment indicating progress in budget performance integration and results.



Annual Target: 70%.

Commentary: Target was exceeded by achieving an average PART score of 81.2%. Over the past 3 years OMB has assessed 10 of NNSA's 23 programs. OMB determined that one of those programs (EWGPP) was too new to fully rate at this time and the other 9 programs averaged a PART score of 81.2% (the average PART score including EWGPP is 77.2% still exceeding the target). This achievement is important because it demonstrates that NNSA is ahead of schedule for meeting a Presidential requirement for all Government programs to integrate their performance results and budget dollars in terms that are clear and meaningful to the American public.

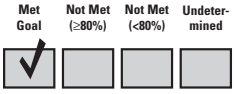
Supporting Documentation: Evidence of these results are documented in OMB PART excel spreadsheets and OMB 1-page PART Summaries. The Summaries are published each year in the budget.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

NN GG 1/2 50.5 (This Annual Target is shared with DP GG 1/2 50.5) Number of procurement actions awarded as a result of NNSA's Strategic Sourcing Initiative.



Annual Target: Award three contracts at a minimum cost savings of ten percent.

Commentary: Our annual target was exceeded. In total, we made 9 new prime strategic contract awards this fiscal year. This is a significant achievement because it resulted in at least a 10% cost savings.

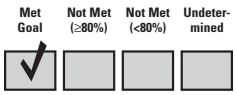
Supporting Documentation: Evidence of the number of contracts awarded are documented in the tracking worksheet summarizing Contract Name, Work Description, Billing Amount, Contract Duration, Projected Obligations, and Award Date. Evidence for the percentage of cost savings can be documented by comparing this fiscal years tracking worksheet with previous years.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

NN GG 1/2 50.6 (This Annual Target is shared with DP GG 1/2 50.6) Percentage of NNSA federal offices consolidated to the NNSA Information Technology Common Environment/Service Center. NOTE: Annual cost savings (gross) of $11M against an operating baseline of $34M will be achieved through a rationalized and modernized architecture resulting in reduced requirements for contractor support, equipment replacement and maintenance, and software procurement and licensing.



Annual Target: Baseline and initiate NNSA IT Service Center Standup and Common Environment project.

Commentary: The target was met by NNSA completing 100% of planned activities in FY 2004: project baselined, initiated and Livermore Site Office transitioned to Service Center support. Completed detailed planning for Los Alamos Site Office upgrades and also completed upgrades initiated during 4th Quarter. This achievement is a significant step in achieving NNSA IT modernization by FY06 that will result in an annual cost savings (gross) of $11M against an operating baseline of $34M.

Supporting Documentation: Evidence of these results are documented in the NNSA Service Center Standup Project Management Lifecycle Documentation, Volume 3 Execution Phase, Books 1-4.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

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General Goal 3: Naval Reactors

Provide the Navy with safe, militarily effective nuclear propulsion plants and ensure their continued safe and reliable operation.

Summary of FY 2004 Annual Performance Targets

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
7	0	0	0

FY 2004 Program Costs ($ in Millions): Goal 3 Costs: $740
FY 2003 Program Costs ($ in Millions): Goal 3 Costs: $687

PROGRAM GOAL:

NR GG 3.49 *NAVAL REACTORS*: Provide the Navy with safe, militarily effective nuclear propulsion plants and ensure their continued safe and reliable operation.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
✓			

Commentary: The program is on-track to fully achieve its long-term goal. During FY 2004 all targets to provide the Navy with safe, militarily effective nuclear propulsion plants and ensure their continued safe and reliable operation were met or exceeded.

Associated Annual Target for FY 2004

NR GG 3.49.1 Miles of safe reactor plant operation supporting National security requirements.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
✓			

Annual Target: Complete safe steaming of approximately two million miles in nuclear powered ships.

Commentary: The target was met for FY 2004. Naval Reactors safely steamed approximately two million miles in nuclear powered ships. This is important because it supports the Program's goal of providing the Navy with safe, militarily effective nuclear propulsion plants and ensuring their continued safe and reliable operation.

Supporting Documentation: Evidence of these results are documented in the Naval Reactors DOE Performance Measure Status Report.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003
- Complete safe steaming of approximately two million miles in nuclear-powered ships (NS 3-1a).
  Assessment: MET

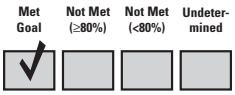
FY 2002
- Maintain utilization factors of at least 90% of operation of test reactor plants, and 124 million miles cumulative steamed for nuclear-powered ships.
  Assessment: MET

FY 2001

- Ensure the safety, performance, reliability, and service life of operating reactors for uninterrupted support of fleet demands, including maintaining utilization factors of at least 90% for test reactor plants, and 121 million miles steamed for nuclear-powered ships.
  Assessment: MET

Associated Annual Target for FY 2004

NR GG 3.49.2 Utilization factor for operation of test reactor plants.



Annual Target: Achieve a utilization factor of at least 90% for operation of test reactors.

Commentary: The target was exceeded for FY 2004. Naval Reactors achieved a utilization factor of 96% for the operation of test reactor plants. This is important because it supports the Program's goal of providing the Navy with safe, militarily effective nuclear propulsion plants and ensuring their continued safe and reliable operation.

Supporting Documentation: Evidence of these results are documented in the Naval Reactors DOE Performance Measure Status Report.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Achieve a utilization factor of a least 90 percent for operation of test reactor plants (NS 3-1b).
  Assessment: MET

FY 2002

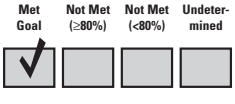
- Maintain utilization factors of at least 90% for operation of test reactor plants, and 124 million miles cumulative steamed for nuclear-powered ships.
  Assessment: MET

FY 2001

- Ensure the safety, performance, reliability, and service life of operating reactors for uninterrupted support of fleet demands, including maintaining utilization factors of a least 90% for test reactor plants, and 121 million miles steamed for nuclear-powered ships.
  Assessment: MET

Associated Annual Target for FY 2004

NR GG 3.49.3 Percent of completion on the next-generation submarine reactor plant design.



Annual Target: Complete 100%.

Commentary: The target was met in FY 2004. Naval Reactors completed 100% of the next-generation submarine reactor plant design. VIRGINIA was commissioned at Norfolk, Virginia on 10/23/04. This is important because it supports the Program's goal of providing the Navy with safe, militarily effective nuclear propulsion plants and ensuring their continued safe and reliable operation.

Supporting Documentation: Evidence of these results are documented in the Naval Reactors DOE Performance Measure Status Report.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003
- Next-generation submarine reactor design 99 percent complete (NS 3-1c).
  Assessment: MET

FY 2002
- Develop new technologies, methods, and materials to support reactor plant design, including the next generation submarine reactor, which will be 96% complete by the end of FY 2002; and conduct detailed design efforts on a reactor plant for the next generation aircraft carrier.
  Assessment: MET

FY 2001
- Develop new technologies, methods and materials to support reactor plant design, including the next generation submarine reactor, which will be 93% complete by the end of FY 2001; and initiate detailed design efforts on a reactor plant for the next generation aircraft carrier.
  Assessment: MET

Associated Annual Target for FY 2004

NR GG 3.49.4 Percent of completion on the next-generation aircraft carrier reactor plant design.

Annual Target: Complete 60%.

Commentary: The target was met for FY 2004. Naval Reactors has completed the FY 2004 Performance Measure Baseline resulting in 60% completion of the overall reactor plant design. This is important because it supports the Program's goal of providing the Navy with safe, militarily effective nuclear propulsion plants and ensuring their continued safe and reliable operation.

Supporting Documentation: Evidence of these results are documented in the Naval Reactors DOE Performance Measure Status Report.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003
- Next-generation aircraft carrier reactor design 55 percent complete (NS 3-1d).
  Assessment: MET

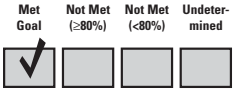
FY 2002
- Develop new technologies, methods, and materials to support reactor plant design, including the next generation submarine reactor, which will be 96% complete by the end of FY 2002; and conduct detailed design efforts on a reactor plant for the next generation aircraft carrier.
  Assessment: MET

FY 2001

- Develop new technologies, methods and materials to support reactor plant design, including the next generation submarine reactor, which will be 93% complete by the end of FY 2001; and initiate detailed design efforts on a reactor plant for the next generation aircraft carrier. **Assessment: MET**

Associated Annual Target for FY 2004

NR GG 3.49.5 Percent of completion on the Transformational Technology Core (TTC) reactor plant design.



Annual Target: Establish design basis from preliminary studies and development to enable the start of conceptual design.

Commentary: The target was met for FY 2004. TTC Nuclear Design Basis was submitted to NR headquarters for approval on 4/9/2004, and work on the Conceptual Design has begun. This is important because it supports the Program's goal of providing the Navy with safe, militarily effective nuclear propulsion plants and ensuring their continued safe and reliable operation.

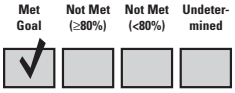
Supporting Documentation: Evidence of these results are documented in the Naval Reactors DOE Performance Measure Status Report.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

NR GG 3.49.6 Ensure no one exceeds Federal limits for personnel radiation exposure from Program operations.



Annual Target: No personnel exceed 5 Roentgen Equivalent Man (REM)/year.

Commentary: The target was met for FY 2004. A review conducted on 30 September 2004 confirmed that no personnel exceeded Federal limits for personnel radiation exposure in FY 2004. This is important because it supports the Program's goal of providing the Navy with safe, militarily effective nuclear propulsion plants and ensuring their continued safe and reliable operation.

Supporting Documentation: Evidence of these results are documented in the Naval Reactors DOE Performance Measure Status Report.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- No personnel exceed 5 REM/year (NS 3-1e). **Assessment: MET**

FY 2002

- Maintain outstanding environmental performance by ensuring that no personnel exceed Federal limits for radiation exposure, and no significant findings result from environmental inspections by State and Federal regulators.
  Assessment: MET

FY 2001

- Maintain outstanding environmental performance by ensuring that no personnel exceed Federal limits for radiation exposure, and no significant findings result from environmental inspections by State and Federal regulators.
  Assessment: MET

Associated Annual Target for FY 2004

NR GG 3.49.7 Ensure Program operations have no adverse impact on human health or the quality of the environment.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
☑	☐	☐	☐

Annual Target: Operations have no adverse impact on human health or the quality of the environment.

Commentary: The target was met for FY 2004. Naval Reactors ensured operations had no adverse impact on human health or the quality of the environment. This is important because it supports the Program's goal of providing the Navy with safe, militarily effective nuclear propulsion plants and ensuring their continued safe and reliable operation.

Supporting Documentation: Evidence of these results are documented in the Naval Reactors DOE Performance Measure Status Report.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Operations have no adverse impact on human health or the quality of the environment (NS 3-1f).
  Assessment: MET

FY 2002

- Maintain outstanding environmental performance by ensuring that no personnel exceed Federal limits for radiation exposure, and no significant findings result from environmental inspections by State and Federal regulators.
  Assessment: MET

FY 2001

- Maintain outstanding environmental performance by ensuring that no personnel exceed Federal limits for radiation exposure, and no significant findings result from environmental inspections by State and Federal regulators.
  Assessment: MET

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General Goal 4: Energy Security

Improve energy security by developing technologies that foster a diverse supply of reliable, affordable, and environmentally sound energy by providing for reliable delivery of energy, guarding against energy emergencies, exploring advanced technologies that make a fundamental improvement in our mix of energy options, and improving energy efficiency.

Summary of FY 2004 Annual Performance Targets

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
98	2	15	0

FY 2004 Program Costs ($ in Millions): Goal 4 Costs: $6,378
FY 2003 Program Costs ($ in Millions): Goal 4 Costs: $6,235

PROGRAM GOAL:

FE GG 4.55

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
	✓		

ZERO EMISSIONS COAL-BASED ELECTRICITY and HYDROGEN PRODUCTION: Create public/private partnerships to provide technology to ensure continued electricity production from the extensive U.S. fossil fuel resource, including control technologies to permit reasonable-cost compliance with emerging regulations, and ultimately, by 2015, zero emission plants (including carbon) that are fuel-flexible, and capable of multi-product output and efficiencies over 60% with coal and 75% with natural gas.

Commentary: The Zero Emissions Coal-Based Electricity and Hydrogen Production goal is on track for meeting its 2015 target. All FY04 critical targets have either been met or have action plans in place to ensure in the 2015 target will be met. 84% of the targets reported for GPRA and 90% of the targets tracked internally to FE have been complete on or ahead of schedule.

Associated Annual Target for FY 2004

FE GG 4.55.1.1

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
✓			

Complete bench- and pilot-scale testing of five novel mercury control concepts capable of achieving > or = 90% mercury capture and initiate seven new projects under second phase of field testing of mercury control technology capable of achieving 50% - 70% mercury capture at costs equals $35,000/lb mercury (Hg) removed.

Commentary: This target has been met. Multiple rounds of bench- and pilot-scale testing have been completed and eight projects have been initiated under the second phase of field testing of mercury control technology. These bench and pilot scale test of mercury control technologies are a critical step in the deployment of lower cost, higher mercury capture technologies.

Supporting Documentation: Multiple test reports.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Complete preliminary field testing of alternative mercury control technologies representing at least three approaches for achieving 50% or greater removal (ER4-1a).
  Assessment: MET

- Complete fine particulate monitoring in the Upper Ohio River Valley region; complete field testing of alternative particulate matter collection technologies representing at least two approaches for achieving 99.99 percent removal; initiate research of PM 2.5 and mercury transport and deposition (ER4-1c).
  Assessment: MET

- Initiate projects for developing technologies to address emerging electric utility/water issues and combustion byproducts utilization and disposal (ER4-1d).
  Assessment: MET

FY 2002

- Complete report characterizing concentration and composition of ambient PM 2.5 as input to the EPA PM 2.5 National Ambient Air Quality Standards (NAAQS) review. This data will help identify the impact of emission sources on air quality.
  Assessment: MET

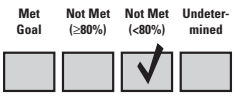
- Complete Phase I report characterizing concentration and composition of ambient PM 2.5 emissions as input to the EPA PM 2.5 National Ambient Air Quality Standards (NAAQS) review. This data will help identify the impact of emission sources on air quality.
  Assessment: MET

FY 2001

- Deliver to EPA two years worth of high-quality PM 2.5 ambient monitoring data from the upper Ohio River Project.
  Assessment: MET

Associated Annual Target for FY 2004

FE GG 4.55.2.1 Complete Ion Transport Membrane (ITM) designs with target oxygen production of 95% purity, to obtain engineering data for further technology scale-up, ultimately leading to cost reductions of $75-$100/KW, and efficiency improvements of 1-2 points.



Commentary: Annual target not met. However, because most technically challenging part of the overall program, the function of the ceramic ITM is progressing well, APCI still anticipates commercial readiness by 2010. This will allow the Zero Emissions Coal-Base Electricity and Hydrogen Plant program goal to be met.

Supporting Documentation: N/A

Plan of Action: Air Products submitted a cost and scope revision application which has been accepted and an Amendment issued because it will result in a net gain to Government. As a result of the change in scope, the FY 04 Q4 milestone is now re-scheduled to FY 06 Q2. Process flow diagrams, control schemes, major equipment specs, firm bid estimate etc are complete and Air Products will pre-commercialize ITM Oxygen technology by 2008 and entrance plant by 2009.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Initiate developmental testing of SCR catalysts for reducing Nox emissions from alternatively fueled boilers (ER4-1b).
  Assessment: MET

- Establish the design basis for a one to five ton per day facility capable of determining engineering feasibility, defining technical performance, and establishing operating costs for oxygen separation using membrane technology (ER4-2a).
  Assessment: MET

FY 2002

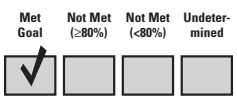
- There were no related annual targets in FY 2002.

FY 2001

- Issue request for proposals for the commercial scale demonstration of technologies to assure the reliability of the Nation's energy supply from existing and new electric generating facilities.
  Assessment: MET

Associated Annual Target for FY 2004

FE GG 4.55.2.2



Initiate testing on advanced hydrogen separation membranes in simulated coal gasification product streams and complete design of a hydrate pilot-scale slipstream test unit. Advanced hydrogen separation technologies target eventual sequestering of carbon dioxide (CO2) with a less than 10% increase in electricity cost by 2012.

Commentary: The annual target was met. Hydrogen separation membranes are critical to economically viable gasification based sequestration and hydrogen production systems. This initial test of a commercially viable dense ceramic membrane capable of operating at high temperatures and pressures without becoming embrittled by its interactions with hydrogen and without becoming poisoned by the presence of sulfur in the feed gases is a major milestone.

Supporting Documentation: The CO2 hydrate slipstream test unit engineering design basis draft report was submitted for DOE review on September 30, 2004. The information contains technical proprietary information. Results on the initiation of testing of hydrogen separation membranes using simulated, coal-derived synthesis gas will be included in project's FY04 4th quarter technical report.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Complete initial laboratory-scale performance testing of hydrogen separation membranes using simulated gas streams (ER4-2b).
  Assessment: MET

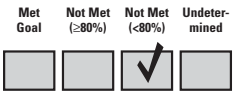
- Complete initial laboratory tests to determine performance capabilities of sorbents, sieves, and membranes for removing mercury, sulfur, nitrogen, and CO2 from gas streams (ER4-2c).
  Assessment: MET

FY 2002 • There were no related annual targets in FY 2002.

FY 2001 • There were no related annual targets in FY 2001.

Associated Annual Target for FY 2004

FE GG 4.55 2.3 Complete at least 250 hours of high efficiency desulfurization process units operating with coal-derived synthesis gas. Eventual process units improvement are targeted to contribute a 60-80 $/Kilowatt (KW) capital cost reduction and a 1 point efficiency gain to the gasification system performance by 2010.



Commentary: This target was not met. However, progress was made towards the capital cost reduction target and a 1 point efficiency gain. In fact, the T-2749 sorbent has been awarded R&D 100 Award. Based upon current progress, it is still possible to meet the 2010 program goals.

Supporting Documentation: N/A

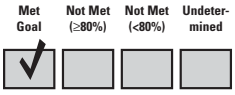
Plan of Action: The FY05 program has been evaluated and projects critical for gas clean up program success will be addressed. However, an extended shut-down of the Wabash facility will adversely impact several project in the Gasification Technologies program.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

FE GG 4.55.2.4 Perform modeling, facility modifications, and conduct pilot-scale tests for identifying technology opportunities to increase reliability, improved performance and increased feed flexibility of advanced gasifiers. Gasification improvements target eventual capital cost reductions and a 90% single train availability by 2010.



Commentary: Annual target met. The modeling strategy was changed at the beginning of the year to pursue a more effective modeling approach. The modeling and testing associated with this effort will identify technologies that can be used to improve the reliability and reduce the cost of gasification systems.

Supporting Documentation: The MFIX Model and run results are available for observation at the National Energy Technology Laboratory; Albany Research Center (ALRC) project Refractory Material Issues in Gasifiers (FEAA010B) 2nd quarter FY 04 Report.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003 • Conduct gasification support tests on leachability of gasifier residues, improved refractories, and oxygen-blown gasification of alternative fossil fuel feedstocks, and develop a simulator for a Vision 21 plant (ER4-2d).
Assessment: MET

- Develop technical and cost information sufficient for DOE decision-making on the viability of proceeding with plans for construction of a co-production plant (ER4-2e).
  Assessment: MET

FY 2002

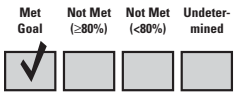
- Complete initial tests of the Integrated Gasification Combined Cycle (IGCC) transport gasifier to confirm the feasibility of the technology to significantly improve reliability, cost effectiveness, and efficiency for producing electricity and other products.
  Assessment: MET

FY 2001

- There were no related annual targets in FY 2001.

Associated Annual Target for FY 2004

FE GG 4.55.2.5



Perform a thermal analysis of syngas turbine blades, initiate testing of an hydrogen (H2) delivery system, and perform a systems study of an optimized IGCC turbine design. Ultimately by 2008 these and follow-on efforts will reduce IGCC Nitrous Oxide (NOx) emissions to less than 3 ppm, reduce turbine cost by 10-20 % by increasing specific power output, increase turbine firing temperature and combined cycle integration to improve efficiency by 2 - 3 percentage points and reduce emissions associated with high hydrogen fuels.

Commentary: Target was met. Optimization of a hydrogen turbine is needed for a zero emissions coal plant to be economically viable. Thermal analysis of blades, testing of the hydrogen delivery system, and system studies are important steps toward this goal.

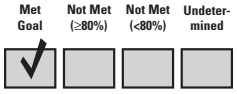
Supporting Documentation: Provided in Electric Power Research Institute's (EPRI) project (41231) Combustion Turbine Hot Section Coating Life Management report, National Energy Technology Laboratory (NETL) In-house combustion Project for Hydrogen Delivery System (FY04-OST- Combustion) project data files, and General Electric Power Systems project (41889) System Study for Improved Gas Turbine Performance for Coal IGCC Application report.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

FE GG 4.55.3.1



Advanced Capture and Sequestration from Power Plants and Other Energy Plants.

Commentary: This target has been met. Several novel concepts for carbon separation and capture have been designed and tested. These concepts are critical to reducing the cost of sequestration by 75% by 2012.

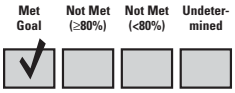
Supporting Documentation: Carbon Separation and Capture Concept Design and Test Reports.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

FE GG 4.55.3.2 Infrastructure Development, Measurement-Monitoring-Verification (MMV), and Sequestration through Restoration of Disturbed/Unproductive and Productive Lands:



Annual Target: Develop instrumentation and initiate one or more field tests of advanced monitoring and verification methods for carbon inventories for geologic and terrestrial sequestration. Complete a database for mid-continent geological storage projects.

Commentary: Annual target met. Instrumentation development and field tests for the measurement, monitoring and verification (MMV) of sequestered carbon dioxide were completed. Ensuring that carbon dioxide remains safely sequestered is the critical mission of MMV and is critical to a zero emissions coal power plant.

Supporting Documentation: VPI and State University's Q2 FY2004 Report, LANL's Annual Report and in a publication submitted to The Leading Edge on September 8, 2004. A database for mid-continent geological storage projects was completed as illustrated by Midcontinent Interactive Digital Carbon Atlas and Relational Database (MIDCARB)'s website (www.midcarb.org) and a framework for U.S. wide project planning was initiated and illustrated by National Carbon Sequestration Database and Geographic Information System (NATCARB)'s website (www.natcarb.org) and as part of two Masters' theses from MIT students: (1) Cheng, D.S., "Integration of Distributed and Heterogeneous Information for Public-Private Policy Analyses" and (2) Singh, N., "A Systems Perspective for Assessing Carbon Dioxide Capture and Storage Opportunities."

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Complete initial set of field tests of advanced monitoring and verification methods for carbon inventories on natural and engineered terrestrial systems and establish a database for mid-continent planning of geological storage projects. Establish regional carbon sequestration partnerships (ER4-3a). **Assessment: MET**

- Initiate evaluations of three novel concepts, comprising integrated sequestration with enhanced coal bed methane recovery, mineral carbonation, and CO2 flooding during enhanced oil recovery and establish initial recommendations for long-term monitoring of CO2 geological storage to assure acceptability as a safe, long-term storage option (ER4-3b). **Assessment: MET**

- Complete initial planning, field-testing, or analysis of sequestration concepts involving saline aquifer storage, ocean storage, and scientific feasibility of CO2 storage as hydrate on the ocean floor and complete initial comparative evaluation of energy technology scenarios to identify promising concepts for CO2 sequestration (ER4-3c).
  Assessment: MET

FY 2002

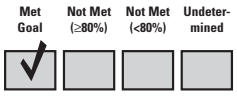
- There were no related annual targets in FY 2002.

FY 2001

- For carbon sequestration, expand the number of possible cost-effective, collaborative, multi-national applied R&D options carried to the "proof of concept" stage. Complete multiple field experiments on promising technologies.
  Assessment: MET

Associated Annual Target for FY 2004

FE GG 4.55.4.1



Relative to FY03 baseline of 145 mWatt/cm2 power density at 800C, demonstrate a 20% improvement in fuel cell stack power density for Solid State Energy Conversion Alliance (SECA) system design. This effort will ready systems for prototype testing and eventual capable of achieving SECA cost reduction and efficiency goals of $400/kW and 40-60 percent by 2010.

Commentary: The annual target was met. The demonstrated improvements in power density far exceeded the target goal. This accomplishment will lead to prototype testing readiness and lower costs that will help meet SECA specifications and goals by 2010.

Supporting Documentation: Available on the SECA website (http://www.seca.doe.gov/), especially the Fuel Cell Annual Report 2004.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Communicate fuel cell program objectives and results and conduct peer-reviews through conferences, workshops, and website tools. Manage the PSPG R&D portfolio through assessment of results and selection of new projects to fill portfolio gaps (ER4-4a).
  Assessment: MET

- Conduct cost reduction R&D programs involving near term developers, Siemens Westinghouse (SWPC) and FuelCell Energy (FCE), for the fuel cells, including manufacturing and Balance Of Plant (BOP) components (ER4-4b).
  Assessment: MET

- Conduct field test necessary to establish feasibility of high temperature fuel cell hybrids and novel systems, including design, procurement, construction, and testing (ER4-4c).
  Assessment: MET

- Conduct contracted and in-house State Energy Conversion Alliance (SECA) core technology of crosscutting and proof-of-concept R&D for transferred to one or more industrial teams, including know-how, patents, licenses, reports, papers in peer reviewed journals, etc. (ER4-4d).
  Assessment: MET

- The SECA industrial team shall conduct stack design and testing, including manufacturing approaches, and materials and BOP systems optimization leading prototypes (ER4-4e).
  Assessment: MET

FY 2002

- Complete demonstration of a commercial-scale, 250 kW Molten Carbonate Fuel Cell (MCFC) power plant system. This test will verify the commercial design for the MCFC technology for the combined heat and power (CHP) or distributed generation (DG) market and, if successful will justify the construction of a MCFC manufacturing facility in the U.S.
  Assessment: MET

FY 2001

- Begin testing of a 300 kW-1MW solid oxide fuel cell/turbine hybrid commercial prototype for distributed power applications.
  Assessment: MET

Associated Annual Target for FY 2004

FE GG 4.55.4.2 Relative to FY03 baselines of 900 for cathode performance and 174 for interconnect performance in area specific resistance units of mohms-cm2 at 750C, complete 20% improvements in cathode performance and in the service-life of electrical interconnects and transfer technology advances to the SECA industry teams to facilitate systems cost reduction and efficiency goals of $400/kW and 40-60 percent by 2010. Annual stakeholder workshops and semi annual peer reviews will communicate progress and define future R&D requirements.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
☑	☐	☐	☐

Commentary: The annual target was met. Both the cathode performance and interconnect performance far exceeded the goals set in this annual target. These performance measures are both critical to the long term cost and system efficiency goals.

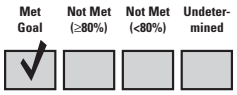
Supporting Documentation: Available on the SECA website (http://www.seca.doe.gov/), especially the Fuel Cell Annual Report 2004.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

FE GG 4.55.5.1 Complete a Hydrogen from Coal R&D program plan and complete draft solicitation research guidance for technology innovations to reduce the cost of producing hydrogen from coal.



Commentary: The annual target was met. All program planning document and research guidance preparation was completed in FY04, namely the Hydrogen from Coal Multi-Year Program Plan. This plan serves as a road map for our current and future efforts.

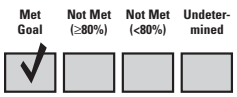
Supporting Documentation: Located on the NETL (http://www.netl.doe.gov/coal/fuels/) and Fossil Energy (http://www.fossil.energy.gov/programs/fuels/index.html) websites.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

FE GG 4.55.6.1 Make go/no go decisions regarding award of cooperative agreements for one or more Round 1 Clean Coal Power Initiative (CCPI) projects and issue a Round 2 CCPI solicitation.



Commentary: The annual target has been met. Go/no go decisions were made regarding the award of cooperative agreements for seven Round 1 CCPI projects, and a Round 2 final solicitation was issued on February 13, 2004.

Supporting Documentation: Acquisition actions available through NETL Acquisition and Assistance. Information also available at the Fossil Energy, Clean Coal Technology website at http://www.fossil.energy.gov/programs/powersystems/cleancoal/index.html.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Additional Targets from 2003-2001

FY 2003

- There were no additional targets in FY 2003.

FY 2002

- Complete initial tests of the IGCC air-blown transport gasifier on bituminous coal, to determine the feasibility of the technology on high rank coals for significantly improving reliability, cost effectiveness, and efficiency for producing electricity.
  Assessment: MET

- Complete construction and start operations of Circulating Atmospheric Fluidized Bed demonstration project at Jacksonville, Florida.
  Assessment: MET

- Complete the injection of 2,500 tons of CO2 into a depleting oil reservoir to monitor the transport of CO2 and verify predictive geologic models on reservoir integrity.
  Assessment: Not Met

- Restart and test the 220-kW hybrid solid oxide fuel cell (SOFC) microturbine power plant at the National Fuel Cell Research Center. If successful, this test will verify the commercial design for this particular SOFC technology for DG or CHP applications.
  Assessment: MET

- Complete development of manufacturing processes that will reduce MCFC stack and other component production reject rates, reduce product cost per KW, and improve throughputs. These improvements will be incorporated into a MCFC manufacturing plant boosting production capacity from 6MW to 50 megawatt (MW) per year.
  Assessment: MET

FY 2001

- Issue a request for proposals for the commercial scale demonstration of technologies to assure the reliability of the Nation's energy supply from existing and new electric generating facilities.
  Assessment: MET

- Demonstrate hydrogen and CO2 separation from syngas to meet the long-term goals of providing low-cost hydrogen for high-efficiency fuel cells, and for providing concentrated CO2 streams for sequestration.
  Assessment: MET

- Complete design and continue construction of the Circulating Atmospheric Fluidized Bed demonstration project at Jacksonville, Florida.
  Assessment: MET

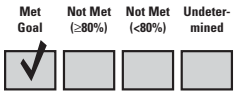
- Begin testing of a 300kW-1 MW solid oxide fuel cell/turbine hybrid commercial prototype for distributed power applications.
  Assessment: MET

- Initiate construction of a fixed-bed slagging gasification and fuel cell demonstration project (Kentucky Pioneer Energy Project).
  Assessment: MET

- Begin construction of a one MW Solid Oxide Fuel Cell (SOFC) hybrid.
  Assessment: Nearly Met

PROGRAM GOAL:

FE GG 4.56

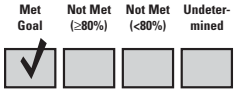


NATURAL GAS TECHNOLOGIES: The Natural Gas Technologies' goal is to provide technology and policy options capable of ensuring abundant, reliable, and environmentally sound gas supplies.

Commentary: The Natural Gas Technologies goal is on track for meeting its long-term program targets. All FY04 critical targets have been met and the program remains on track to meet all long-term program targets. The research, development and testing completed in FY-04 are critical steps on the path to meeting the long-term goal of having an abundant and environmentally sound gas supply.

Associated Annual Target for FY 2004

FE GG 4.56.1



Conduct laboratory studies and feasibility analysis necessary to justify the next stage of R&D for a drilling vibration monitoring and control system, a novel mud hammer, high temperature - high pressure (HTHP) cements, gas resources in the Uinta and Anadarko basins, and HT electronics. This is accomplished by completing prototype development and validation testing of data fusion algorithms, a power amplifier, and simulating software for fractured reservoirs prior to field trials.

Commentary: The annual target was met. Laboratory studies, feasibility analyses and model development efforts have been completed to justify the next stage of development or moving to field testing as appropriate. These activities have directly contributed towards meeting the long term objective.

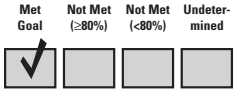
Supporting Documentation: Information provided in ProMIS tracking system.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

FE GG 4.56.2



Complete field tests and analysis of stripper well technologies, a jet assisted drilling system, advanced fracture stimulation designs, natural fracture predictions, and downhole power and communications systems to determine the overall technical and cost efficiency of the technology and the next step(s) to be taken, i.e., commercialization, additional modifications and testing, or termination.

Commentary: Field tests conducted in 2004 have resulted in several tools being commercialized, have directly resulted in increased gas production from several wells in several different basins, and will help operators continue to improve gas production if applied to other wells. These activities have directly contributed towards meeting the long term objective.

Supporting Documentation: Various field test and analysis reports.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Complete basin model for the Wind River Basin and well site selection in Greater Green River Basin to evaluate integrated remote sensing, seismic surveys and basin structural analysis to differentiate gas-bearing from uneconomic fractured reservoirs, complete a conceptual model of regional water distribution to help operators avoid poor production areas, and build and have field ready an initial prototype of a 400-geophone receiver array to improve seismic resolution necessary to locate economically productive gas zones (ER5-1a).
  Assessment: MET

- Conduct two field tests of improved drilling technology that will improve the productivity of gas reservoirs and reduce drilling costs and two field tests of technologies to improve natural fracture detection to increase the percentage of economically producing wells of all wells drilled (ER5-1b).
  Assessment: MET

FY 2002

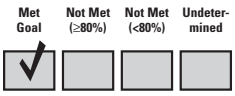
- Demonstrate safe economic slim hole drilling technology in actual use under Arctic conditions. This technology can significantly reduce cost and environmental impacts.
  Assessment: MET

FY 2001

- There were no related annual targets in FY 2001.

Associated Annual Target for FY 2004

FE GG 4.56.3 Hold 2 interagency meetings to exchange hydrate information and coordinate hydrate efforts between government agencies. Issue 2 newsletters and hold 1 workshop to communicate program results to stakeholders.



Commentary: The annual target was met. Meetings and workshops are continuing to provide a well coordinated effort between all government agencies. Program results are being communicated through these workshops and newsletters. These activities have directly contributed towards meeting the long term objective. A meeting of the Federal Advisory Committee for the Methane Hydrate R&D program was held in La Jolla, California on September 21-22, 2004. The meeting included representatives from all 5 participating agencies (the NTL, USGS, MMS, NOAA, NSF, and DOE) and included discussions of overall program plans and priorities. In addition a meeting of agencies (DOE-NETL, MMS and NOAA-NURP) involved in efforts to establish a permanent sea-floor monitoring station met in Silver Spring, MD in August '04 to discuss plans and options for future efforts.

Supporting Documentation: September 21-22, 2004, meeting summary is posted in Groupwise Library for SCNGO. Report on August 2004 meeting was reported in NETL Weekly September 10, 2004 as Item for Headquarters.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Exchange information and coordination effort between government agencies. Award subprojects under Joint Industry Projects (JIP) for Gulf of Mexico seafloor stability and monitoring programs. Issue newsletters, publish available technical reports on the methane hydrate website, and hold two workshops to coordinate program results to researchers. Conduct annual Federal Advisory Committee meeting (ER5-2a).
  Assessment: MET

FY 2002

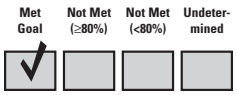
- There were no related annual targets in FY 2002.

FY 2001

- There were no related annual targets in FY 2001.

Associated Annual Target for FY 2004

FE GG 4.56.4



Complete laboratory analysis of core samples from the Malik research well and the Hot Ice No. 1 well, thermal property and thermal conductivity measurements, and complete installation of a 12-liter hydrate cell to obtain the necessary data for modeling and characterizing hydrate deposits.

Commentary: Annual target was met. Laboratory analyses and measurements of hydrate properties will provide valuable data for modeling and characterizing hydrate deposits. These activities have directly contributed towards meeting the long term objective.

Supporting Documentation: Thermal Properties have been successfully measured on a compacted hydrate sample and a compacted sediment sample. Documentation on their completion is available in a Chemistry and Surface Science Division common drive folder. The United States Geologic Survey completed, in July 2004, thermal conductivity measurements of tetrahydroturan (THF) hydrate at varying temperatures and Gas Hydrate and Sediment Test Laboratory Instrument (GHASTLI) measurements to constrain mechanical properties in silt samples containing gas hydrate. Milestone documentation is detailed in July 2004 Monthly Report in ProMIS. (FT34343).

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Complete hydrate modeling for Alaska drilling program. Report strength and thermal property tests at national labs, this is fundamental data needed to model production and seafloor stability of hydrates. Develop prototype Raman Spectroscopy to use lasers to define hydrate molecular structure (ER5-2b).
  Assessment: MET

FY 2002

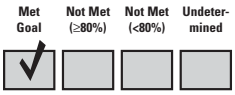
- There were no related annual targets in FY 2002.

FY 2001

- Quantify a hydrate deposit by correlating core samples with geophysical and well log data.
  Assessment: MET

Associated Annual Target for FY 2004

FE GG 4.56.5 Complete field tests of hydrate logging and coring operations in the Gulf of Mexico, and drilling and coring Hot Ice No. 1, and analyze results and publish reports on Ocean Drilling Program (ODP) leg 204 and Malik well to advance our understanding of seafloor stability and production potential.



Commentary: The annual target was met. Core obtained by NRL in Gulf of Mexico is providing ground truth characterization of the JIP deep drilling, logging and coring sites to advance our understanding of seafloor stability. The Hot Ice drilling and coring project provide a wealth of information towards understanding production potential on the North Slope. These activities have directly contributed towards meeting the long term objective. Coring in Gulf of Mexico was completed on May 15, 2004 under NT34344. NETL had the opportunity to complete this milestone early. A total of 15 piston cores were taken, mostly over Mound F, in the Atwater Valley, Gulf of Mexico.

Supporting Documentation: The preliminary cruise report is available under the "Status" tab of the project's ProMIS profile.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Complete initial report of improved hydrate coring device on Ocean Drilling Program, Leg 204. Study of oceanic samples is essential to understanding the distribution and properties of hydrate in nature. Drill one test well to determine aerial extent of hydrate occurrence in Alaska. Complete evaluation of hydrate occurrence in Gulf of Mexico to understand the interaction of hydrate and seafloor stability (ER5-2c).
  Assessment: MET

FY 2002

- There were no related annual targets in FY 2002.

FY 2001

- There were no related annual targets in FY 2001.

Additional Targets from 2003-2001

FY 2003

- Conduct four field tests to demonstrate technical feasibility of advanced remote sensing and pipeline inspection technologies to reduce unintentional damage and increase pipeline integrity. Complete two field tests for underground gas storage facilities to improve gas storage well deliverability. Complete field-testing of energy meter prototype (ER5-1f).
  Assessment: MET

FY 2002

- Complete laboratory testing and begin field demonstrations of an improved remedial technology for storage wells.
  Assessment: MET

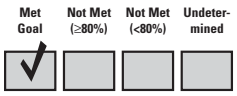
- Develop two technologies to detect and quantify areas of high fracture density in currently uneconomic low permeability gas reservoirs. Select drill sites for demonstration of the two technologies.
  Assessment: MET

FY 2001

- There were no additional targets in FY 2001.

PROGRAM GOAL:

FE GG 4.57

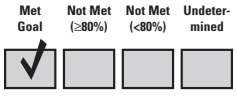


OIL TECHNOLOGY: The goal of the Oil Technology program is to enhance U.S. energy security by managing and funding oil exploration and production (E&P) research and policy which results in development of domestic oil resources in an environmentally sound and safe manner.

Commentary: The Oil Technology goal is on track for meeting its long-term target. All FY04 critical targets have been met and the program remains on track to meet all long-term program targets. The research, development and testing completed in FY-04 are critical steps on the path to meeting the long-term goal of developing domestic oil sources in a safe and environmentally sound manner.

Associated Annual Target for FY 2004

FE GG 4.57.1



Advance the state-of-the-art in oil recovery processes by conducting bench tests in surfactant behavior (2 projects), modeling non-conventional reservoirs, studying gel control of water production, developing seismic algorithms to better identify hydrocarbon targets, testing 2 prototypes (3-phase separator and microhole completion), and modeling sweep efficiency for enhanced oil recovery technologies to increase the amount of oil that can be recovered from discovered reservoirs.

Commentary: The annual target was met. Conformance studies in existing fields were completed and results were published as SPE 89401. The Tundra Model work was exceptionally important because it allows Arctic operators to work extended periods in the field.

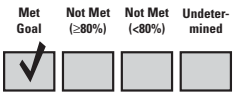
Supporting Documentation: Conformance Studies Results published as SPE 89401.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

FE GG 4.57.2



Enhance access to remaining domestic oil resources using advanced technology by focusing on high-risk research (award 3 projects–Micro-hole technology); issuing competitive solicitation and awarding three projects; initiate Russian cooperative Research Program; and conduct model integration peer review and industry strategic program review.

Commentary: The annual target was met. The micro-hole technology will allow the program to make resources economically recoverable that could not previously contribute to the Nation's resource base. These projects are long-term in their support of the program.

Supporting Documentation: Information tracked in ProMIS.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Increase access to the domestic oil reserves by using advanced technology. Focus on high-risk research (award six projects and issue one solicitation microhole technologies) for future applications on state and federal lands and waters, and on addressing nearer-term barriers. Select and award five projects with independents, and on a regional basis award four projects-PUMP. Award two projects in Advanced technologies and select and award projects under the Broad Funding Announcement (ER5-1c).
  Assessment: MET

FY 2002

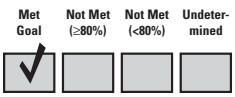
- Demonstrate a small-diameter, lightweight composite drill pipe for ultra-short radius drilling.
  Assessment: MET

FY 2001

- There were no related annual targets in FY 2001.

Associated Annual Target for FY 2004

FE GG 4.57.3



Ensure that refining and gas production and use are safe for the environment and the public by conducting field tests and data analysis for remediation, produced water treatment, and synthetic muds technologies; preparing baseline characterization of impacts of Wyoming and Montana coalbed methane (gas from coal seams) production on ground-water systems; and utilizing laser-coupled technology to identify natural gas distribution system leaks.

Commentary: All milestones were met. The synthetic muds work results can improve the economics of deep water projects.

Supporting Documentation: Various field test and analysis reports.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Analyze results of bench-scale reverse osmosis in produced water treatment equipment. Develop kinetics for model compounds to be used in enzymatic and biomimetic catalysts for upgrading heavy crude oils. Construct greenhouse prototype for phytoremediation for methane (natural gas) from coal bed water. Collect data on fine particulate matter emission factors. Complete prototype methane leak detection refinery test. These studies will provide the scientific basis for lower-cost commercial-scale environmental technologies (ER5-1e).
  Assessment: MET

FY 2002

- There were no related annual targets in FY 2002.

FY 2001

- There were no related annual targets in FY 2001.

Additional Targets from 2003-2001

FY 2003

- Reduce the number of dry holes drilled in frontier areas, and increase near-term energy security through field testing (three projects) improved oil recovery techniques, seismic (one project), data acquisition (two projects); interpretation (one project) and streamflood simulation (one project) in existing light and heavy oil reservoirs at sites ranging from Alaska to Utah. Initiate full-scale field test of newly developed vibration sonic tool (ER5-1d).
  Assessment: Met less than 80% of the Target.

FY 2002

- There were no additional targets for FY 2002.

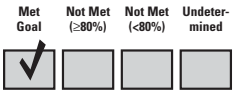
FY 2001

- Completed the demonstration of five advanced secondary and tertiary technologies. Based on models, it is estimated these technologies will increase near-term incremental production by 1.7 million barrels of oil, and long-term incremental production over 2.4 billion barrels of oil.
  Assessment: Nearly Met

- Demonstrate the field application of a shoulder-mounted, portable video methane leak detection system that can be used to significantly reduce costs of leak monitoring at refineries and other facilities while reducing harmful air emissions. Annual savings of $500,000 per year per refinery, on average, would result from regulatory acceptance and application of this technology.
  Assessment: Not Met

PROGRAM GOAL:

FE GG 4.58

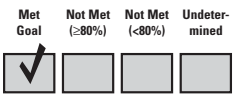


PETROLEUM RESERVES: Maintain operational readiness of the SPR to drawdown at a sustained rate of 4.4 million barrels per day for 90 days, within 15 days notice by the President and fill the SPR to its current capacity of 700 million barrels by 2005.

Commentary: The Petroleum Reserves Program goal is on track to fill the Strategic Petroleum Reserve (SPR) to 700 million barrels by the end of 2005. The reserves added to the SPR in FY04 exceeded program targets. Degas plant operation also commenced which will enhance safety and reduce environmental and health risks when draw down of the SPR supplies is required.

Associated Annual Target for FY 2004

FE GG 4.58.1 End of year crude oil inventory will equal 656 million barrels.



Commentary: FE met the inventory goal for the Strategic Petroleum Reserve enhancing its role as being the first line of defense against an interruption in petroleum supply.

Supporting Documentation: Total inventory as of September 30, 2004 was 670.3 million barrels as documented in the Crude Oil Movement and Event Tracking System (COMETS).

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Add 39.8 million barrels (cumulative from April 2002). EOY crude oil inventory will equal 628 million barrels (ER6-1b).
  Assessment: Met at or above 80%, but below 100%, of the Target.

FY 2002

- Continue the delivery of exchanged Federal Royalty Oil to the SPR that was transferred to DOE in FY 1999-2001, per the FY 1999 Agreement with the Department of Interior. Approximately 11 million barrels will be added to SPR inventory in FY 2002.
  Assessment: MET

- Commence the transfer of Federal Royalty Oil under Phase III to the SPR in April 2002. By the end of FY 2002, add 9.2 million barrels of royalty oil to the SPR inventory.
  Assessment: MET

FY 2001

- Establish a Northeast Heating Oil Reserve of up to two million barrels.
  Assessment: MET

- Complete the transfer of Federal Royalty Oil to the SPR by November 2000, per the FY 1999 Agreement with the Department of Interior.
  Assessment: MET

Associated Annual Target for FY 2004

FE GG 4.58.2 Commence full degas plant operations.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
☑	☐	☐	☐

Commentary: Long-term storage of crude oil in underground solution-mined salt cavers resulted in increased crude vapor pressure due to gradual geothermal heating and possible methane gas intrusion from the salt formation. When oil is drawn down, or removed from caverns, increased vapor pressure results in gas being released in amounts that may be unacceptable, posing environmental, safety, and health risks. The most cost effective solution for long-term vapor pressure control was the construction of a portable degasification plant, which would move from site to site, as needed.

Supporting Documentation: Degas plant continues to operate well above 100,000 barrels per day as evidenced in the Degas Plant Performance Tracking Sheet.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003
- Complete the Degas Plant design (ER6-1c).
  Assessment: MET

FY 2002
- Award the contract for degas plant construction by November 30, 2001. A degas plant is a vapor pressure system for the continuous removal of excess gas from the SPR crude oil inventory.
  Assessment: MET

FY 2001
- There were no related targets in FY 2001.

PROGRAM GOAL:

NE GG 4.14 *DEVELOP NEW NUCLEAR GENERATION TECHNOLOGIES*: Develop new nuclear generation technologies and advanced energy products - including high efficiency electricity and hydrogen - that provide significant improvements in sustainability, economics, safety and reliability, and proliferation and terrorism resistance.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
☐	☑	☐	☐

Commentary: Progress has been made towards the development of the technologies and products required for the nuclear power plants of the future. For the near-term goal of lowering the risks associated with obtaining the licenses to build and operate the next nuclear power plant in the U.S., the combined Construction and Operating License (COL) process has moved forward by awarding a project to conduct a detailed evaluation of both obtaining a COL license and building an advanced light water reactor. For the long-term goal of developing the technologies that will enable hydrogen generation using nuclear power, the laboratory-scale experiments have been designed for the two baseline hydrogen production processes. If these processes can be demonstrated as economically viable, follow-on commercial-scale tests of these processes will be conducted to further define the economic constraints.

Associated Annual Target for FY 2004

NE GG 4.14.1 Select for award at least one cost-shared project with a power generating company-led team for activities required to demonstrate for the first time the combined Construction and Operating License (COL) process.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
✓			

Commentary: Three industry consortia responded to the Department's solicitation to demonstrate the combined COL process for new nuclear power plants. The Department has awarded and initiated one cost-shared project with a power generation company-led team to conduct a detailed cost and schedule evaluation to obtain a combined Construction and Operating License (COL) and build an advanced light water reactor at the Bellefonte site in Alabama. During FY 2004, the Department made significant progress toward evaluating sites and candidate technologies for building new nuclear power plants and working with industry to demonstrate the new licensing processes. In addition to continued progress in demonstrating the Early Site Permit process, the Department has successfully encouraged the industry to form consortia and innovative business arrangements among power generation companies, reactor vendors and architect-engineers having strong and common incentives to build and operate new nuclear power plants in the United States.

Supporting Documentation: DOE/TVA Interagency Agreement dated August 26, 2004.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Under the cooperative agreements with U.S. power generation companies, support the preparation and submittal of at least two Early Site permit applications for commercial sites to NRC (ER7-1a).
  Assessment: MET

- Following a competitive process, award at least one industry cost-shared cooperative agreement for technology development and regulatory demonstration activities (ER7-1b).
  Assessment: Met less than 80% of the Target

FY 2002

- Complete at least two cooperative agreements with U.S. power generating companies to jointly proceed with at least two NRC Early Site Permit (ESP) applications for specific DOE and/or commercial sites.
  Assessment: MET

- Develop and sign an agreement with U.S. industry and our international partners to begin a gas reactor fuel-testing program that will enable licensing of gas-cooled reactors in the United States.
  Assessment: MET

- Complete and issue the government/industry roadmap to build new nuclear plants in the United States by 2010.
  Assessment: MET

FY 2001

- There were no related annual targets in FY 2001.

Associated Annual Target for FY 2004

NE GG 4.14.2 Award one or more contracts for the Next Generation Nuclear Plant (NGNP) pre-conceptual design.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
		✓	

Commentary: The annual target was not met. Initial planning for the Next Generation Nuclear Plant (NGNP) called for awarding a contract by the end of FY 2004 for pre-conceptual design. In working toward this goal, the Department anticipated the release of the request for proposals (RFP) for the management and operating contract for the new Idaho National Laboratory (INL) early in CY 2004. Because many key programmatic goals expected to be met by the INL are coincident with those to be met by the NGNP, the Department decided to delay the initial public release of the NGNP procurement strategy until release of the final INL RFP. The INL RFP was released in late spring 2004. The delay in the issuing the INL RFP has led to a delay in the issuance of a program announcement for a cooperative agreement leading to a pre-conceptual design. DOE engaged the industry and the public in an open process to inform its development of an acquisition strategy for the NGNP. By the end of the fiscal year, the Office of Nuclear Energy, Science and Technology finalized both the Mission Need Statement and the Draft Program Announcement for the NGNP.

Supporting Documentation: Mission Need Statement and Draft Program Announcement for the Next Generation Nuclear Plant signed by the Director, NE on September 24, 2004.

Plan of Action: As a result of the analysis associated with the Department's implementation of its acquisition strategy approval process and resolution of comments received through a request for Expressions of Interest, the Department has modified the acquisition strategy for this project. A new target and associated quarterly milestones have been developed for FY 2005 to track the progress of this effort. The FY 2005 target is "Sign a cooperative agreement with a U.S. company to act as a 'Project Integrator' for the Next Generation Nuclear Plant."

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Issue the Generation IV Technology Roadmap to develop the most promising next generation nuclear energy system concepts (ER7-1c).
  Assessment: MET

- Develop preliminary functional requirements for the Generation IV Very-High-Temperature Reactor (ER7-1d).
  Assessment: MET

FY 2002

- Complete the draft Generation IV Technology Roadmap for development of the next generation nuclear energy systems.
  Assessment: MET

FY 2001

- Formally establish the Generation IV International Forum to assist in identifying and conducting cooperative R&D. Initiate development of a Generation IV Technology Roadmap for development of next generation nuclear energy systems.
  Assessment: MET

Associated Annual Target for FY 2004

NE GG 4.14.3 Complete final designs for the baseline thermochemical and high-temperature electrolysis laboratory-scale experiments.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
✓			

Commentary: The final designs for the baseline thermochemical and high-temperature electrolysis laboratory-scale experiments were completed and describe the experimental equipment for the two hydrogen production processes that will be constructed and tested over the next two years. These tests are the first of a three-phase experimental scaling process that will demonstrate the economics of nuclear-driven hydrogen production systems.

Supporting Documentation: Design of an Integrated Laboratory-Scale Experiment for the Sulfur-Iodine Thermochemical Cycle and Design of a 50kW Integrated Laboratory-Scale High-Temperature Electrolysis System.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Additional Targets from 2003-2001

FY 2003

- Complete 29 Nuclear Energy Research Initiative (NERI) projects initiated in FY 1999 and FY 2000 in the areas of advanced reactor technology, advanced reactor fuel, fundamental nuclear science technology, and/or nuclear waste management (ER7-3a).
  Assessment: MET

- Award five new International NERI (I-NERI) projects in the areas of next generation reactor and fuel cycle technology, innovative nuclear plant design and advanced nuclear fuels and materials with the Republic of Korea (ER7-3b).
  Assessment: MET

FY 2002

- Complete the first 3-year phase of NERI research and development.
  Assessment: MET

- Complete funding for the 10 NERI projects initiated in FY 2000; provide funding for the second year of the 13 NERI projects initiated in FY 2001; and award at least 16 new NERI projects.
  Assessment: MET

- Complete five projects initiated in prior years associated with managing long-term effects of plant aging and improving electricity generation.
  Assessment: MET

- Award at least six International NERI bilateral cost-shared research projects with three countries.
  Assessment: MET

FY 2001

- Complete funding for the first 3-year phase of Nuclear Energy Research Initiative (NERI) research and development; select feasible and important reactor and fuel cycle concepts for continued development; and, issue approximately 15 new awards.
  Assessment: MET

- Complete four projects, continue 10 projects initiated in FY 2000, and initiate eight new projects to conduct R&D activities associated with managing long-term effects of plant aging and improving electricity generation.
  Assessment: MET

- Establish bilateral research programs with other countries to improve the cost, and enhance the safety, non-proliferation, and waste management capabilities of future nuclear energy systems.
  Assessment: MET

PROGRAM GOAL:

NE GG 4.15

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
☑	☐	☐	☐

NUCLEAR FUEL TECHNOLOGIES: Develop advanced, proliferation-resistant nuclear fuel technologies that maximize energy output, minimize wastes, and operate in a safe and environmentally sound manner.

Commentary: The Department completed the planned FY 2004 AFCI research activities, which included the fabrication, irradiation, and post-irradiation examination of fuel samples that are being designed for the next generation nuclear power plants. These research activities were completed within the AFCI program's planned technical scope, cost and schedule baselines. The AFCI program continues to demonstrate the feasibility of building nuclear power plants that maximize the extraction of energy, minimize the generation of waste, and can be safely operated in an environmentally sound manner. These accomplishments enable the Department to move closer to fuel selection and larger-scale demonstrations.

Associated Annual Target for FY 2004

NE GG 4.15.1

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
☑	☐	☐	☐

Achieve variance of less than 10 percent from cost and schedule baselines for Advanced Fuel Cycle Initiative (AFCI) activities.

Commentary: The AFCI program achieved variances of less than 10 percent (cost 1.06 percent / schedule 0.97 percent) from established cost and schedule baselines through August 2004. The September 2004 results will not be available until the third week of October 2004 and will be reflected in the results for the first quarter of FY 2005. This achievement signifies NE's ability to successfully manage this high-profile, national research program being conducted throughout the Department's national laboratories.

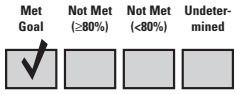
Supporting Documentation: Program Baseline Documentation (Appropriated - 1st Qtr was based on Continuing Resolution), Monthly AFCI Cost and Schedule Performance Reports.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

NE GG 4.15.2



Complete fabrication and irradiation of advanced light water reactor (LWR) proliferation-resistant transmutation fuel samples, and initiate post-irradiation examination of the samples.

Commentary: Fabrication and irradiation of advanced light water reactor (LWR) proliferation-resistant transmutation fuel samples were completed and post-irradiation examination of the samples was initiated. Successful irradiation of these fuel samples marks the first time LWR proliferation-resistant transmutation fuel samples containing minor actinides have been irradiated in the U.S. The post-irradiation examinations conducted to date indicate no evidence of fuel failures. This achievement significantly advances the knowledge of the performance of these advanced fuels under realistic irradiation conditions, and paves the way towards eventual fuel selection and larger-scale demonstration.

Supporting Documentation: Report of visual inspections conducted in the ATR facility at INEEL and in the HFEF at ANL-W issued September 15 and September 30, 2004, respectively.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Complete fabrication of test articles containing proliferation-resistant transmutation fuels for irradiation in the ATR beginning in FY 2004 (ER7-2a). **Assessment: MET**

FY 2002

- Successfully manufacture advanced transmutation non-fertile fuels and testing containers for irradiation testing in the Advanced Test Reactor. **Assessment: MET**

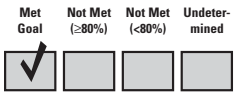
- Complete a report to Congress comparing chemical processing, and pyroprocessing, accelerator-driven, and fast reactor alternatives for transmutation, proliferation resistance, and life cycle cost estimates. **Assessment: Mixed Results**

FY 2001

- There were no related annual targets in FY 2001.

Associated Annual Target for FY 2004

NE GG 4.15.3 Issue the report on the demonstration of a laboratory-scale separation of americium/curium from spent nuclear fuel to support the development of advanced fuel cycles for enhanced repository performance.



Commentary: The report on the demonstration of a laboratory-scale separation of americium/curium from spent nuclear fuel to support the development of advanced fuel cycles for enhanced repository performance was issued. The results documented in the report demonstrate that the Reverse Talspeak separations process is effective in separating minor actinides (Americium/Curium) from lanthanides (rare earths including europium and gadolinium) in commercial spent nuclear fuel. The tests were performed with radioactive solutions and established separation factors of 10 to 100, adequate for successful solvent extraction separations. Transmutation fuels containing minor actinides may be intrinsically proliferation resistant but must be low in impurities with high thermal cross-sections, such as the lanthanides, which the Reverse Talspeak process appears capable of achieving. Establishing the basic feasibility of the separation of americium (Am) and curium (Cm) from rare earths elements (lanthanides) at laboratory-scale strengthens the potential for the future development of a complete advanced fuel cycle that includes treatment of commercial spent fuel. If successful, advanced fuels or transmutation targets containing Am/Cm may be feasible for powering commercial light water reactors while simultaneously providing substantial waste management benefits. Am/Cm separation also affords the opportunity to prepare specialized targets for Generation IV fast reactor or accelerator based transmutation which could lead to essentially complete destruction of minor actinides. Additional laboratory and engineering-scale research must be completed to establish the feasibility of such advanced fuel cycles on a commercial scale.

Supporting Documentation: "Summary of Actinide and Lanthanide Separation Studies for Spent Fuel Processing", by L. K. Felker, D. E. Benker and E. D. Collins, Oak Ridge National Laboratory.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003
- Demonstrate a laboratory scale extraction of plutonium and neptunium as well as cesium and strontium from other actinides and fission products to support the development of advanced fuel cycles for enhanced repository performance (ER7-2b).
  Assessment: MET

FY 2002
- Demonstrate the separation of highly radioactive isotopes from civilian spent nuclear fuel from uranium with the uranium cleaned up to 99.999% pure (Class C waste), using the newly developed Uranium Extraction Plus (UREX) process.
  Assessment: MET

FY 2001
- There were no related annual targets in FY 2001.

Additional Targets from 2003-2001

FY 2003
- There were no additional targets in FY 2003.

FY 2002

- Following completion of primary sodium drain, complete deactivation of Experimental Breeder Reactor II (EBR-II) and all directly related surplus facilities by March 2002.
  Assessment: MET

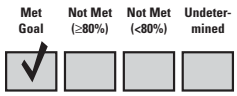
- Treat a minimum of 0.5 MTHM of EBR-II spent nuclear fuel.
  Assessment: MET

FY 2001

- Establish a new Advanced Accelerator Applications university fellowship program, and fund ten new graduate students in engineering and science.
  Assessment: MET

PROGRAM GOAL:

NE GG 4.17

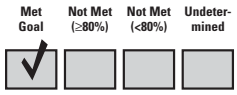


MAINTAIN AND ENHANCE THE NATIONAL NUCLEAR INFRASTRUCTURE: Maintain and enhance the national nuclear infrastructure to support the requirements of the Department's energy security technology development/demonstration programs, and to meet the Nation's energy, environmental, health care, and national security needs.

Commentary: The Department continues to significantly support the education of the next generation of nuclear engineers and scientists by providing over 90 fellowships, scholarships, and industry matching grants, as well as, funding numerous equipment and instrumentation upgrades at the university reactors throughout the country. In addition, by continuing to execute the scheduled upgrades and construction of key nuclear facilities, the Department is supporting the various R&D programs of the Department and other agencies that utilized these facilities.

Associated Annual Target for FY 2004

NE GG 4.17.1



Fund the six existing regional reactor centers; provide fuel to University Research Reactors; fund 20 to 25 DOE/Industry Matching Grants, 20 equipment and instrumentation upgrades, and 50 Nuclear Engineering Education Research grants; and provide 18 fellowships and 47 scholarships.

Commentary: The Department's University Program (UP) met all of its annual goals and continues to strengthen and enhance the Nation's nuclear research infrastructure, thereby, helping to heighten the visibility of nuclear engineering as a viable career opportunity and strengthen the nuclear engineering pipeline to replace retiring professionals. The Department funded the six existing regional reactor centers and 20 equipment and instrumentation upgrades and successfully implemented an aggressive fuel shipment schedule to meet the needs of the university research reactor community. In addition, the UP program surpassed the annual goals in the areas of Matching Grants, NEER, and fellowships and scholarships. The annual goal for Matching Grants was to award 20 to 25 matching grants. The Department awarded 26. The NEER program goal was 50, and 51 were awarded. In the areas of fellowships and scholarships, the goal was 18 and 47, respectively. The Department awarded 21 fellowships and 54 scholarships. The program supports the National Energy Policy objective to expand nuclear energy in the United States by preserving the education and training infrastructure that is needed at universities as the U.S. continues its reliance on advanced nuclear technologies.

Supporting Documentation: Signed Notices of Financial Assistance Award (NFAA).

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Protect national nuclear research assets by: funding four regional reactor centers; providing fuel to University Research Reactors; funding 20 to 25 DOE/Industry Matching Grants, 18 equipment and instrumentation upgrades, and 37 Nuclear Engineering Education Research grants; and providing 18 fellowship and 40 scholarships (ER7-4a).
  Assessment: MET

FY 2002

- Attract outstanding U.S. students to pursue nuclear engineering degrees by: providing 18 graduate student fellowships with higher stipends beginning in FY 2002; supporting 50 university Nuclear Engineering Education Research Grants to encourage creative and innovative research at U.S. universities; and providing scholarships and summer on-the-job training to approximately 40 sophomore, junior, and senior nuclear engineering and science scholarship recipients.
  Assessment: MET

- Support U.S. universities' nuclear energy research and education capabilities by: providing fresh fuel to university reactors requiring this service; funding all of the 23 universities with research reactors that apply for reactor upgrades and improvements; partnering with private companies to fund 20 to 25 DOE/Industry Matching Grants for universities; providing funding for Reactor Sharing with the goal of enabling all of the 28 eligible schools that apply for the program to improve the use of their reactors for teaching, training, and education; and awarding two or more Innovations in Nuclear Infrastructure and Education awards.
  Assessment: MET

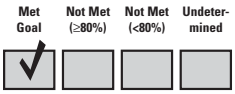
FY 2001

- Attract outstanding U.S. students to pursue nuclear engineering degrees by: providing 24 fellowships; increasing the number of Nuclear Engineering Education Research Grants to approximately 50 existing and new grants; and providing scholarships to approximately 50 sophomore, junior, and senior nuclear engineering and science scholarship recipients, including the partnering of minority institutions with nuclear engineering schools to allow these students to achieve a degree in their chosen course of study and nuclear engineering.
  Assessment: MET

- Support U.S. universities' nuclear energy research and education capabilities by: providing fresh fuel to all university reactors requiring this service; funding at least 23 universities with research reactors for reactor upgrades and improvements; partnering with private companies to fund 18 or more DOE/Industry Matching Grants Program for universities; and continuing to support Reactor Sharing enabling each of the 29 schools eligible for the program to improve the use of their reactors for teaching, training, and education within the surrounding community.
  Assessment: MET

Associated Annual Target for FY 2004

NE GG 4.17.2 Keep cost and schedule milestones for upgrades and construction of key nuclear facilities within 10 percent of approved baselines, using the cost-weighted mean percent variance (+/-10 percent) approach.



Commentary: Cost and schedule milestones for upgrades and construction of key nuclear facilities were executed within 10 percent of approved cost and schedule baselines (9.5 percent cost/6 percent schedule). These upgrades and construction projects ensure that the Department's unique facilities, required for advanced nuclear energy technology research and development, are maintained and operated such that they are available to support national priorities.

Supporting Documentation: Approved Baselines, Monthly Idaho Facilities Management Televideo Conference Presentations and Office of Engineering and Construction Management's Project Assessment Reports.

Related Annual Targets (FY 2003 - FY 2001)

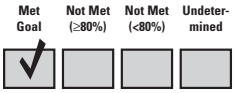
FY 2003
- Keep cost and schedule milestones for upgrades and construction of key nuclear facilities within 10 percent of approved baselines (ER7-4b).
  Assessment: Met at or above 80%, but below 100% of the Target

FY 2002
- Complete 80% of the construction of the Los Alamos Isotope Production Facility, which is needed for the production of short-lived radioisotopes essential for U.S. medical research.
  Assessment: MET

FY 2001
- Complete 75% of the facility construction and equipment installation for the new 100 MeV Isotope Production Facility, which is needed to continue production of short-lived radioisotopes essential for U.S. medical research.
  Assessment: MET

Associated Annual Target for FY 2004

NE GG 4.17.3 Consistent with safe operations, maintain and operate key nuclear facilities so the unscheduled operational downtime will be kept to less than 10 percent, on average, of total scheduled operating time.



Commentary: Consistent with safe operations, key nuclear facilities were maintained and operated so the unscheduled operational downtime was kept to less than 10 percent, on average, of total scheduled operating time. Efficient maintenance and operation ensures that the Department's unique facilities, required for advanced nuclear energy technology research and development, are available to support national priorities.

Supporting Documentation: Approved Baselines, Monthly Reports, Approved schedule revisions to accommodate customer needs.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Safely operate each key nuclear facility within 10 percent of the approved plan, shutting down reactors if they are not operated within their safety envelope and expediting remedial action (ER7-4c).
  Assessment: MET

FY 2002

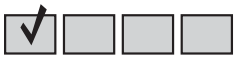
- There were no related annual targets in FY 2002.

FY 2001

- There were no related annual targets in FY 2001.

Associated Annual Target for FY 2004

NE GG 4.17.4 Maintain and operate radioisotope power systems facilities with less than 10 percent unscheduled downtime from approved baseline.



Commentary: Radioisotope power systems facilities were maintained and operated with less than 10 percent unscheduled downtime from the approved baseline. Efficient maintenance and operation ensures that the Department's unique facilities, required for advanced nuclear energy technology research and development, are available to support national priorities.

Supporting Documentation: Weekly critical activities reports and monthly reports for ORNL. LANL closure is well documented in internal and public announcements.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Demonstrate the operational capability of radioisotope power systems infrastructure by fabricating flight quality products at each of the major facilities (i.e., at least eight iridium clad vent sets at Oak Ridge National Laboratory (ORNL) and at least eight encapsulated Pu-238 fuel pellets at Los Alamos National Laboratory (LANL), and by processing at least two kilograms of scrap Pu-238 at LANL) (ER7-4d).
  Assessment: MET

FY 2002

- Bring the full-scale scrap recovery line to full operation and begin processing Pu-238 scrap for reuse in ongoing and future missions requiring use of radioisotope power systems.
  Assessment: Mixed Results

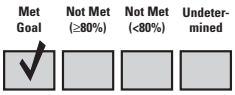
- Demonstrate the operational capability of radioisotope power systems infrastructure by fabricating quality products at each of the major facilities (i.e., at least eight iridium clad vent sets at ORNL and at least eight encapsulated Pu-238 fuel pellets at LANL).
  Assessment: MET

FY 2001

- Complete installation of the full scale Pu-238 scrap recovery line to process Pu-238 scrap that will be required to provide radioisotope power systems for planned NASA and national security missions.
  Assessment: MET

Associated Annual Target for FY 2004

NE GG 4.17.5



Issue the Design Basis Threat Implementation Plan for the Idaho National Engineering and Environmental Laboratory and Argonne National Laboratory-West.

Commentary: Design Basis Threat (DBT) Implementation Plan for the Idaho National Engineering and Environmental Laboratory and Argonne National Laboratory-West was issued on schedule. This plan provides a framework for achieving the Department's milestone of full DBT implementation by end of FY 2006.

Supporting Documentation: Integrated Design Basis Threat Implementation Plan issued February 20, 2004.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Complete the Idaho Integrated Safeguards and Security Plan to assure appropriate protective measures are taken commensurate with the risks and consequences for both laboratories on the Idaho site (ER7-4e).
  Assessment: MET

FY 2002

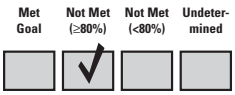
- During FY 2002, no national security incidents occurred within NE Idaho site wide cyber systems and security areas that caused unacceptable risk or damage to the Department.
  Assessment: MET

FY 2001

- There were no related annual targets in FY 2001.

PROGRAM GOAL:

EE GG 4.01

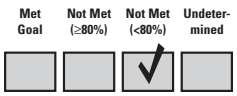


HYDROGEN and FUEL CELL TECHNOLOGIES: The Hydrogen, Fuel Cells and Infrastructure Technologies Program goal is to develop hydrogen production, storage, and delivery technologies to the point that they are cost and performance competitive and are being used by the Nation's transportation, energy, and power industries. As such, the Program will expand and make more flexible our clean domestic energy supplies to dramatically reduce or even end dependence on foreign oil.

Commentary: Meeting all technology and cost targets in the concurrent technology paths of hydrogen production, storage, and fuel cell power are key contributions to meeting the Hydrogen Posture Plan goals. The Department of Energy is actively executing its program plan by issuing competitive solicitations and making awards in key research areas such as hydrogen storage, hydrogen production and delivery, and fuel cell development.

Associated Annual Target for FY 2004

EE GG 4.01.a



Non-Renewables: Complete research for natural gas-to-hydrogen production and dispensing component development and fabrication towards achieving 5,000 psi hydrogen for $3.00/gge (untaxed and without co-production of electricity) at the station in 2006.

Commentary: Initiated final design tasks for the Penn State Hydrogen Refueling Station. Due to funding delay, the final system design was not completed. Final system design for Air Products and Chemicals, Inc. State College Refueling Station will be completed in the second quarter of FY 2005. To date, process engineering, controls engineering, safety reviews, and operability reviews have begun. The design of the compression, storage, and dispensing modules has been completed. These systems will be deployed at Penn State in the first quarter of FY 2005. Additionally, design work has begun on optimizing the Hydrogen Generation system (reformer, shift, compression, pressure adsorption). This will result in system deployment at Penn State in the third quarter of FY 2005, at which time the station will be fully operational. Progress on the Air Products and Chemicals, Inc. State College Refueling Station, while delayed, is expected to lead to achieving 5,000 psi hydrogen for $3.00/gge (untaxed and without co-production of electricity) at the station in 2006.

Supporting Documentation: Quarterly reports from Air Products and Chemicals, Inc. which describe progress on natural gas-to-hydrogen production and dispensing component development.

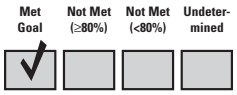
Plan of Action: To keep project going, a liquid hydrogen storage tank is being used until reformer development is complete. Program anticipates final system deployment in the third quarter of FY 2005.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

EE GG 4.01.b



Renewables: Complete research for biomass syngas reforming catalysts to improve durability and reduce cost towards achieving 5,000 psi hydrogen produced for $5.70/gallon of gasoline equivalent (untaxed, modeled cost) at the station by 2005.

Commentary: NREL has completed research for biomass syngas reforming catalysts that will reduce biomass gasification/pyrolysis reforming costs and has improved catalyst durability in a laboratory scale reformer. The new catalyst has minimal attrition and stable comparable activity when operated in a fluid bed reformer compared to a commercial catalyst that has severe attrition in this operating mode. The fluid bed reformer approach minimizes catalyst coking compared with conventional fixed bed reforming. Progress in this catalyst will lead to achieving 5,000 psi hydrogen produced for $5.70/gallon of gasoline equivalent (untaxed, modeled costs) at the station by 2005.

Supporting Documentation: NREL milestone report dated September 30, 2004. NREL Monthly reports.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

EE GG 4.01.c

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
✓			

Complete development of 5,000 pounds per square inch (psi) cyro-gas tank and 10,000 psi compressed gas tank achieving 1.3 kilo watt-hour per kilogram (kWh/kg) and 1.0 kilo watt-hour per liter (kWh/L).

Commentary: Work at Quantum and LLNL completed development of 10,000 psi compressed gas tank achieving 1.3 kilo watt-hour per kilogram (kWh/kg) and 1.3 kilo watt-hour per liter (kWh/L). Quantum supplied a preliminary feasibility report on composite materials and design materials for a 5000 psi compressed Coolfuel (-70C) gas tank (9/30/04). Their analysis indicates that the Coolfuel tank appears feasible since Quantum does not see any technical problems that cannot be mitigated. The next step is to run the computational fluid dynamics (CFD) model of the tank and in-tank regulator assembly model with various thermal conditions to see if any other potential issues might arise.

Supporting Documentation: Quarterly reports from Air Products and Chemicals, Inc, Lawrence Livermore National Laboratory, and Quantum. Technical reports. A full detail report is scheduled to be submitted later in the project.

Related Annual Targets (FY 2003 - FY 2001)

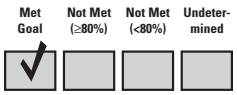
FY 2003
- Complete design of the 5,000 psi cryo-gas tank and 10,000 psi compressed gas tank to achieve 1.3 KWh/kg and 1.0 kWh/1 (ER2-1a2).
  Assessment: MET

FY 2002
- Construct process development unit of ceramic membrane system for membrane system tests for hydrogen production.
  Assessment: MET

FY 2001
- There were no related annual targets in FY 2001.

Associated Annual Target for FY 2004

EE GG 4.01.d



Complete draft of standard test protocol and construction of test facility for solid-state hydrogen storage materials in support of the 2005 targets of 1.2 kWh/L and 4.5 wt% and the 2010 targets of 2.0kWh/kg (6 wt. %), 1.5 kWh/L at $4/kWh.

Commentary: Draft of standard test protocol and construction of test facility for solid-state hydrogen materials were completed. These standard test protocols focus on hydrogen sorption/desorption measurements of small quantities of hydrogen storage materials using a magnetically coupled thermogravimetric analyzer (TGA), a Sieverts apparatus and a thermally programmed desorption apparatus. Construction of the test facility for solid-state hydrogen storage materials has been completed by SwRI (9/29/04). Progress will lead to reaching the 2005 targets of 1.2 kWh/L and 4.5 wt% and the 2010 targets of 2.0kWh/kg (6 wt. %), 1.5 kWh/L at $4/kWh.

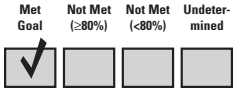
Supporting Documentation: Quarterly reports from Southwest Research Institute, Workshop Report, and Independent review report. Drafts of standard test protocols were completed by Southwest Research Institute (SwRI) on 9/13/04 (SwRI Document Numbers 05064-0001;05064-0009; 05064-0010 and 05064-0011: Master Protocol Index & Facility Overview, High-Pressure Thermogravimetric Analysis; Volumetric Analysis; and Laser Thermal Desorption Mass Spectrometry).

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

EE GG 4.01.e



Determine the baseline level of knowledge and develop a plan for educating target audiences (students and teachers, State and local governments, and large-scale end-users nationwide).

Commentary: All four surveys (public, students and teachers, large scale end users, and state and local government officials) were conducted. This will establish the baseline to be checked against year 2008 (2-fold increase) and year 2010 (4-fold increase).

Supporting Documentation: A report entitled, "Results of the 2004 Knowledge and Opinions Surveys for the Baseline Knowledge Assessment of the Hydrogen, Fuel Cells, and Infrastructure Technologies Program, Version 1" was completed on September 30, 2004. The report includes all four survey instruments, description of approach, results, and conclusions, which support the hydrogen technology education plan.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

EE GG 4.01.f Define requirements for system analysis and integration to link the program's technical objectives to cost and schedule.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
☑	☐	☐	☐

Commentary: The Programmatic Baseline, utilizing FY 2004 data, has been completed and input into the systems engineering management tool. Along with the Technical Baseline completed in the third quarter, this provides the last input required for the initial Integrated Baseline. The Integrated Baseline is now available for validation by the individual program elements and to support planning and decision making.

Supporting Documentation: NREL Quarterly Reports describing model requirements, hydrogen mission analysis, technical baseline for hydrogen system, and integrated baseline.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

EE GG 4.01.g Identify and complete feasibility and system design of an isothermal compressor to be incorporated in hydrogen refueling stations to produce hydrogen at $3.00/gge by 2009.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
☑	☐	☐	☐

Commentary: The work completed over the past year has shown that hydrogen fueling at 10,000 psig can be accomplished in a cost effective manner. The low-cost compressor and new stand-alone dispenser designs have been completed and will be incorporated into a refueling station at Pennsylvania State University (PSU). The fueling station at PSU is expected to demonstrate the ability to produce and deliver hydrogen for less than $3.00/gge (untaxed) in mass production.

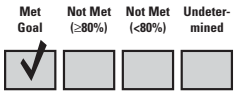
Supporting Documentation: Quarterly reports from Air Products and Chemicals, Inc. for isothermal compressor activities. Feasibility design, dispenser design, and analysis documents.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

EE GG 4.01.h



Complete the harmonized technical standard for high pressure vehicle storage that can be incorporated into a regulation (i.e. incorporating the various standards of different countries into a single regulation) for hydrogen storage. Complete the draft technical standard for vehicular safety.

Commentary: Draft Standard for the high pressure vehicle storage is complete. Technical integration of Compressed Hydrogen Vehicle Tank and Pressure Relief Device (with required tubing) is complete. The Draft Technical Standard for vehicular safety was completed. These standards need to be in place to support the 2015 hydrogen fuel cell commercialization decision.

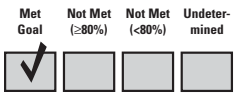
Supporting Documentation: Quarterly reports from Compressed Gas Association for harmonized technical standard. Draft technical standard.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

EE GG 4.01.i



Contribute proportionately to EERE's corporate goal of reducing corporate and program uncosteds to a range of 20-25% by reducing program annual uncosteds by 10% in 2004 relative to the program uncosted baseline (2003) until the target range is met.

Commentary: The Hydrogen and Fuel Cell Technologies Program exceeded its annual target of a ten percent reduction in programs adjusted obligated but uncosted. At the end of the year, the adjusted obligated uncosted (excluding congressionally directed earmarks and Formula Grant activities) was $29,283K (target was $35,924K). Reducing uncosted leads to program activities occurring sooner leading to greater savings from the program.

Supporting Documentation: Uncosted data is verified by MARS. EERE Management Action Plan FY05.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

EE GG 4.01.j Achieve $200/kW for a hydrogen fueled 50kW fuel cell power system.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
☑	☐	☐	☐

Commentary: Achievement of $200 kW cost target (high volume production) for hydrogen fueled 50 kW fuel cell power system was verified by a cost analysis by TIAX that identified improvements in bipolar plate, the membrane and the catalyst accomplished through work at Porvair, 3M, DuPont, Cobot Superior Micropowders, Argonne National Laboratory and Los Alamos National Laboratory. The plates met all of the target properties (conductivity, strength, flexibility, permeability…) and demonstrated performance (voltage vs. current density) in single cell testing that was equivalent to the standard graphite plates. If this plate technology were scaled-up (with material cost reduction, process improvement and capital investment) to 500,000 units/year, then the target of $10/kW for the bipolar plates could be met.

Supporting Documentation: Quarterly reports from Los Alamos National Laboratory, Argonne National Laboratory, and industry partners.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003
- Achieve $225/kW for a 50 kW fuel cell power system (ER2-1b1).
  Assessment: MET

FY 2002
- Achieve $275/kW for a 50 kW fuel cell power system.
  Assessment: MET

FY 2001
- Complete test and evaluation of a fuel-flexible 50 KW integrated fuel cell power system.
  Assessment: MET

Associated Annual Target for FY 2004

EE GG 4.01.k Achieve 31 percent efficiency at full power for a natural gas or propane fueled 50-250 kW stationary fuel cell system.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
☑	☐	☐	☐

Commentary: Proof of concept performance data validating projected 31% efficiency of 50kW system was provided by IdaTech, LLC. The Fuel Cell met its efficiency target, and the 5kW fuel processor efficiency was used to project the overall system efficiency of 31%, efficiency increasing with upscaling of systems. This leads to progress towards the 2010 goal of 40% efficiency for stationary fuel cell system.

Supporting Documentation: This information is documented in correspondence from IdaTech, and will be included in the IdaTech quarterly report.

Related Annual Targets (FY 2003 - FY 2001)

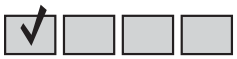
FY 2003
- Achieve 30 percent efficiency at full power for a natural gas/propane 50kW-250kW stationary fuel cell. Plan technology validation activity (ER2-1b2).
  Assessment: MET

FY 2002
- Achieve 29 percent efficiency at full power for a natural gas of propane fueled 50kW stationary fuel cell system.
  Assessment: MET

FY 2001
- There were no related annual targets in FY 2001.

Associated Annual Target for FY 2004

EE GG 4.01.l Industry contracts are awarded and initial vehicles delivered that support the 1,000 hour durability target.



Commentary: Industry contract awards were made for the Validation Project to DaimlerChrysler, Ford, GM and ChevronTexaco in the 4th quarter 2004. Initial fuel cell vehicles have been delivered and data collection has started. This will lead to the validation of 2009 fuel cell vehicle durability targets of 2,000 hour.

Supporting Documentation: Solicitation packages managed at Golden Field Office. Finalized negotiated awards for the validation project.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Additional Targets from 2003-2001

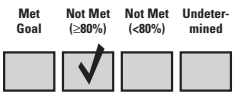
FY 2003
- Verify low electricity and hydrogen production cost (<$.08/kWh and <$3.60/gal equivalent untaxed when produced in quantity) through cost shared operation of a 50kWe stationary fuel cell and hydrogen co-production facility for six months (ER2-1a1).
  Assessment: MET

FY 2002
- There were no additional targets in FY 2002.

FY 2001
- There were no additional targets in FY 2001.

PROGRAM GOAL:

EE GG 4.02

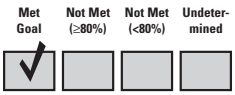


VEHICLE TECHNOLOGIES: Vehicle Technologies Program goal is to develop technologies that enable cars and trucks to become highly efficient, through improved power technologies and cleaner domestic fuels, and to be cost and performance competitive. Manufacturers and consumers will then use these technologies to help the Nation reduce both energy use and greenhouse gas emissions thus improving energy security by dramatically reducing dependence on oil.

Commentary: This program contributes to the General Goal by developing technologies that can enable cars and trucks to become highly efficient by means of R&D that provides clean power technologies and improved domestic fuel specifications that work in concert with advanced power systems. In addition, this program will focus on reducing the cost and improvement of other attributes of advanced vehicle technologies so that they will be both performance and cost competitive. This program is on track for its goals in Vehicle System, Materials Technology, Hybrid and Electric Propulsion, Advanced Combustion Engine R&D, Fuel Technology, and Materials Technology Programs.

Associated Annual Target for FY 2004

EE GG 4.02.1 Reduce parasitic loses to 27 percent of total engine output in a laboratory test.



Commentary: Parasitic loses were reduced from 30% to 27% through improvements in oil filtration system, use of electric accessories, and modified air flow over the truck. This was verified at the Trucking Research Institute test track in Ohio over the body of a tractor trailer. The Society for Automotive Engineers Type 2 fuel economy tests were completed by Georgia Tech Research Institute and Volvo at the Trucking Research Institute, Transportation Research Center test track and confirmed that for trucks traveling at 65 mph, blowing additional air over the rear surface of a trailer reduces parasitic losses by 10%, resulting in a measured net improvement in fuel efficiency of 10%.

Supporting Documentation: EMP Test Results, A Kenworth T-2000 Class-8 truck with a Caterpillar C-15 fuel economy test results, Quarterly Progress Report, Continued Development and Improvement of Pneumatic Heavy vehicles, Phase VI, Robert Englar, Georgia Tech Research Institute, April 15, 2004 (especially pages 14-16).

Related Annual Targets (FY 2003 - FY 2001)

FY 2003
- Reduce parasitic losses of heavy vehicle systems to 30% and benchmark additional reductions through heavy truck electrification (ER1-3c).
  Assessment: MET

FY 2002
- Reduce parasitic losses of heavy vehicle systems from 39% to 36%.
  Assessment: MET

FY 2001

- Completed testing of the 276-volt battery aimed at demonstrating an integrated system having thermal and electrical controls.
  Assessment: MET

Associated Annual Target for FY 2004

EE GG 4.02.2 Reduce high power 25 kW light vehicle estimated lithium ion battery cost to $1,000 per battery system.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
☑	☐	☐	☐

Commentary: Through the use of lower cost carbon (lowered from 22.54 to 10 $/kg) and lower cost separator (20 cents to 10 cents per square foot), the prototype system light vehicle lithium ion battery was lowered from $1050 to $964 per battery system (8.2% reduction). This was demonstrated by Saft America at Cockeysville, Maryland in their USABC Battery Development program.

Supporting Documentation: Contract for $40/kW lithium ion battery for hybrid electric vehicles.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Reduce high power 25 kW-estimated battery cost to $1,180 per battery system (ER1-3a).
  Assessment: MET

FY 2002

- Complete development of second-generation lithium ion electrochemistry for hybrid vehicle power.
  Assessment: MET

FY 2001

- There were no related annual targets in FY 2001.

Associated Annual Target for FY 2004

EE GG 4.02.3 Complete Light Truck activity with 35 percent fuel efficiency improvement over a gasoline powered light truck and Tier 2 emissions levels. Demonstrate 45 percent thermal efficiency for heavy duty diesel engines while meeting EPA 2007 emission standards (1.2 g/bhp/hr Nox).

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
☐	☑	☐	☐

Commentary: Cummins Engine Company light truck prototype achieved a 49 percent improvement in fuel economy (equates to a greater than 35% improvement in fuel efficiency) at their facility in Indiana in September 2004. For Heavy Vehicle, improvement in the fuel injection system, the turbo charger, the control system and the emission control system achieved a thermal efficiency of 44% (80% of improvement goal) with emission levels at 1.3 g/bhp-hr Nox (92% of improvement goal) and 0.01 g/bhp-hr PM. Measurements were performed by Cummins Engine Company. Early analysis indicated that the 45% efficiency goal for heavy duty diesels could be achieved; however, experimental data showed that an improved-capacity heat exchanger is required. The heat exchanger is on order but not scheduled to arrive until the first quarter of FY 2005.

Supporting documentation: Cummins Engine Company Progress Report Presentations, April 2004 and September 2004.

Plan of Action: Engine efficiency will be retested with the improved heat-exchanger in the second quarter of FY 2005. Program expects the engine to meet the efficiency goal at that time.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003
- Demonstrate optimized emission control system that achieves 0.07 g/mile NOx and 0.01 g/mile particulate matter (PM) short-term performance in light duty vehicles (ER1-3b).
  Assessment: MET

FY 2002
- There were no related annual targets in FY 2002.

FY 2001
- Light truck demonstration resulted in a 35% increase in fuel efficiency in a sport utility vehicle.
  Assessment: MET

Associated Annual Target for FY 2004

EE GG 4.02.4 Complete R&D on technology, which, if implemented in high volume, could reduce the price of automotive-grade carbon fiber to less than $5/pound.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
☑	☐	☐	☐

Commentary: To date, fully oxidized and stabilized carbon fiber precursors have been made from commercial PAN (poly-acrilonitrile textile materials) fibers using plasma assisted oxidation techniques developed at ORNL. A separate microwave assisted plasma system has also met the throughout targets for high volume carbon fiber manufacturing. Recommended "recipes" to produce carbon commodity textile acrylic tow have been established. Total system cost savings will be pursued combining plasma assisted oxidation, microwave carbonization and textile precursor technologies to yield a total finished product cost saving. Production equipment needed to practice these processes at high volumes has been identified and Kline and Company made preliminary independent determination of manufacturing costs between $4.59 and $4.93 per pound (exceeding the $5 per pound target). The FY 2004 Automotive Lightweighting Materials Program Annual Report provides details on the progress that has been made to complete the successful oxidation of PAN fiber precursor by plasma assisted processing.

Supporting Documentation: ORNL Quarterly reports, and specialized reports such as Lignin Density Measurements for Low Cost Carbon Fiber: Interim Progress Report, David Warren, ORNL, July 13, 2004.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003
- Complete R&D on technology, which, if implemented in high volume, could reduce the price of automotive-grade carbon fiber to less than $7/pound (ER1-3d).
  Assessment: MET

FY 2002

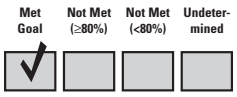
- Fabricate a sport utility vehicle chassis component using carbon fiber in a low cost molding process that is suitable for high volume production.
  Assessment: Not Met

FY 2001

- Completed explorations of four approaches to lower-cost precursors for carbon fibers; down-selected and initiated further work on the two most promising approaches.
  Assessment: MET

Associated Annual Target for FY 2004

EE GG 4.02.5



Contribute proportionately to EERE's corporate goal of reducing corporate and program uncosteds to a range of 20-25% by reducing program annual uncosteds by 10% in 2004 relative to the program uncosted baseline (2003) until the target range is met.

Commentary: The Vehicle Technologies Program exceeded its annual target of a ten percent reduction in programs adjusted obligated but uncosted. At the end of the year, the adjusted obligated uncosted (excluding congressionally directed earmarks and Formula Grant activities) was $73,102K (target was $92,625K). Reducing uncosted leads to program activities occurring sooner leading to greater savings from the program.

Supporting Documentation: Uncosted data is verified by MARS. EERE Management Action Plan FY05.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Additional Targets from 2003-2001

FY 2003

- Start identification of an advanced petroleum-based fuel formulation that enables light and heavy-duty CIDI engine/vehicle systems to meet regulated emissions levels with minimum effect of fuel economy, and perform in full compliance with specified durability requirements (ER1-3e).
  Assessment: MET

FY 2002

- Demonstrate 45% thermal efficiency for a heavy-duty diesel engine while meeting EPA 2004 emission standards.
  Assessment: MET

- Complete initial testing of light trucks with prototype diesel engines to demonstrate a 35% increase in fuel efficiency at Tier II emissions.
  Assessment: MET

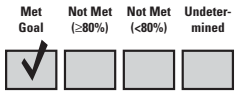
- Reduce gassing in sealed lithium ion batteries so that cells do not vent after five years of storage at full charge.
  Assessment: MET

FY 2001

- Complete explorations of lithium-polymer and lithium ion battery technologies; lithium ion was selected as the most promising approach for continued development.
  Assessment: MET

PROGRAM GOAL:

EE GG 4.03

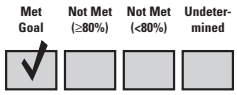


SOLAR ENERGY: The Solar Program goal is to improve performance of solar energy systems and reduce development, production, and installation costs to competitive levels, thereby accelerating both large-scale usage across the Nation and to make a significant contribution to a clean, reliable and flexible U.S. energy supply.

Commentary: The increase in conversion efficiency of commercial production crystalline silicon PV modules to 12.7 percent and thin-film PV modules to 10.1 percent maintains the program's schedule to achieve $1.75 per watt by 2006.

Associated Annual Target for FY 2004

EE GG 4.03.1



Verify, with standard laboratory measurements, U.S.-made commercial production crystalline silicon photovoltaic (PV) modules with a 12.5-percent conversion efficiency. Verify with standard laboratory measurements, U.S.-made commercial production thin-film PV modules with a 10-percent conversion efficiency.

Commentary: During the 4th quarter of FY 2004, the PV Performance Characterization group at the National Center for Photovoltaics (NCP) at NREL continued to conduct conversion efficiency testing on commercial production crystalline silicon (c-Si) modules as well as thin-film modules. The annual target for both c-Si and thin film were both successfully achieved using standard laboratory I-V tests; a conversion efficiency of 12.7% for a c-Si module was verified, and a conversion efficiency of 10.1% of a thin-film module was verified.

Supporting Documentation: Data provided from a current-voltage test run on a SBM Solar multi c-Si module run that was conducted on September 8, 2004, verified a conversion efficiency for c-Si of 12.7%. Thin-film data was provided from testing on a Global Solar CdS/Cu(In,Ga)Se2 module on September 15, 2004 that verified a conversion efficiency of 10.1%. Data based on results from the Spire 240A IV System used by the PV Cell & Module Performance Characterization Group of the National Center for Photovoltaics at NREL. NREL has submitted corresponding laboratory test documentation to the Solar Program for validation and verification purposes.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Reduce manufacturing cost of PV modules to $2.10 per watt (equivalent to $0.19 to $0.24 per kWh price of electricity from an installed solar system) (ER2-4a).
  Assessment: MET

FY 2002

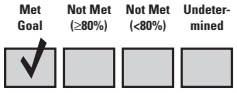
- Reduce manufacturing cost of PV modules to $2.25 per watt (equivalent to $0.20 to $0.30 per kWh price of electricity from an installed solar system).
  Assessment: MET

FY 2001

- Develop a 14% efficient stable prototype thin-film photovoltaic module.
  Assessment: MET

Associated Annual Target for FY 2004

EE GG 4.03.2 Develop conceptual designs of a low-cost polymer solar water heater capable of operation in freezing climates.



Commentary: Working with NREL, the Solar Program completed the requirements for and identification of several viable conceptual designs for low-cost polymer water heaters capable of operation in freezing climates, including heaters in the following categories: drainback; draindown; active charged system (pump); and passive (thermosiphon) system. Based on these efforts, the Solar Program established particular system design requirements that applicants will need to address in responding to the Solar Program's upcoming FY 2005 solicitation for industry-developed conceptual designs. Rather than dictate a particular design for the upcoming RFP, the Solar Program will instead set performance and operational requirements and rely on applicant inventiveness to achieve low-cost designs capable of freezing climate operation. This achievement of developing laboratory conceptual designs for low-cost, polymer solar water heaters paves the way for commercial designs and prototypes and directly supports the program goal stated in its Multi-Year Technical Plan of reducing the cost of solar energy to the point that it becomes competitive in relevant energy markets.

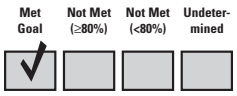
Supporting Documentation: The NREL report entitled, "Cold Climate Solar Domestic Water Heating Systems: Cost/Benefit Analysis and Opportunities for Improvements," 10/1/2004.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

EE GG 4.03.3 Contribute proportionately to EERE's corporate goal of reducing corporate and program uncosteds to a range of 20-25% by reducing program annual uncosteds by 10% in 2004 relative to the program uncosted baseline (2003) until the target range is met.



Commentary: The Solar Energy Program exceeded its annual target of a ten percent reduction in programs adjusted obligated but uncosted. At the end of the year, the adjusted obligated uncosted (excluding congressionally directed earmarks and Formula Grant activities) was $19,342K (target was $23,488K). Reducing uncosted leads to program activities occurring sooner leading to greater savings from the program.

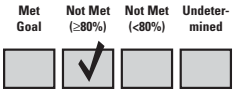
Supporting Documentation: Uncosted data is verified by MARS. EERE Management Action Plan FY05.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

PROGRAM GOAL:

EE GG 4.04

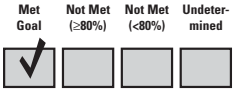


BUILDING TECHNOLOGIES: The Building Technologies Program goal is to develop cost effective tools, techniques and integrated technologies, systems and designs for buildings that generate and use energy so efficiently that buildings are capable of generating as much energy as they consume.

Commentary: In FY 2004, progress in building technologies has included: proposed standard rule makings for residential furnaces, commercial air conditions and distribution transformers; two solid state lighting solicitations that will support the 2023 goal of 200 lumen/watt; and a Building America analysis report completed for design packages targeting 40 percent whole house energy savings.

Associated Annual Target for FY 2004

EE GG 4.04.1



Initiate 5 design packages that provide promising technological solutions considering regional and housing type differences targeting 40 - 50 percent reductions in residential space conditioning loads, compared to International Energy Conservation Code (IECC) 2000, through Building America Consortia. Strategies to reduce the major loads, including energy used for hot water, lighting and clothes dryers will also be investigated.

Commentary: NREL completed the report on analysis of 5 design strategies leading to cost effective, 40% whole house energy savings as a function of region and housing type. The Building America Consortia initiated 5 design packages that provide solutions considering regional and housing type differences targeting 40-50 percent reductions in residential space conditioning loads. This leads to reaching the 2020 goal of 60-70% reduction.

Supporting Documentation: Special Reports published by NREL available on web on the design packages attaining 40-50% reduction plus details from the report, "Analysis Of System Strategies Targeting Near Term Building America Energy Performance Goals For New Single Family Homes," NREL- TP-550-36920.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Pursue six promising technical solutions considering regional and housing type differences targeting 40 percent reductions in residential space conditioning, hot water, and lighting loads. Based on Building America systems research results, develop regional Building System Performance Packages for five climate zones describing "best practices" systems that reduce space conditioning energy use by 30 percent (ER1-4a).
  Assessment: MET

FY 2002

- Increase knowledge base of residential construction industry by pursuing six lines of research investigations focusing on industry identified priorities, e.g. low cost moisture protection, right-sized hearing, ventilation and air-conditioning (HVAC) designs, super efficient distribution systems, etc.
  Assessment: MET

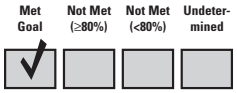
- Complete at least 850 highly resource-efficient, cost-effective homes through the Building America consortia, bringing the total number of homes built through the program to more than 4,500.
  Assessment: MET

FY 2001

- With Building America Partners, complete 3,000 energy efficient, environmentally sound high performance homes.
  Assessment: MET

Associated Annual Target for FY 2004

EE GG 4.04.4



Complete a solicitation and award five or more competitively based research awards for cost-shared research on technology (such as substrate materials and light extraction) to contribute to the goal of 160 Lumen/watt (lpw) & $11/klm of white light from solid-state devices with industry, national labs, and universities.

Commentary: The solid state lighting program completed two solicitations; one for core technology and the other for Product Development awarding 16 projects for cost-shared research on technology to contribute to the goal of 160lm/W & $11/klm of white light from solid-state laboratory devices with industry, national labs, and universities. In the Core Technology Solicitation, seven private sector institutions and four projects with national labs were selected and awarded. In the Product Development Solicitation, five company projects were selected.

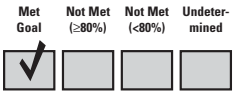
Supporting Documentation: Solicitations, applications, and awards. Additionally, the Industry Interactive Procurement System has records of the solicitations.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

EE GG 4.04.5



Prepare for DOE issuance up to four rules to amend appliance standards and test procedures for some of the following products: Residential Furnaces, Boilers, and Mobile Home Furnaces; Electrical Distribution Transformers; Commercial Unitary Air-Conditioners and Heat Pumps; and Residential Niche Product Air-Conditioners and Heat Pumps.

Commentary: DOE published five rules regarding appliance standards and test procedures. They included three Advance Notice of Proposed Rulemaking for Residential Furnaces, Boilers, and Mobile Home Furnaces; Electrical Distribution Transformers; Commercial Unitary Air-Conditioners and Heat Pumps; Standards and a Supplemental Notice of Proposed Rulemaking for Electric Distribution Transformer test procedures. In addition, the Department published a final rule regarding standards for residential central air conditioners, this eliminated the need to conduct planned rulemaking on Residential Niche Product Air Conditioners and Heat Pumps.

Supporting Documentation: Federal Register Notices: Advance Notice of Proposed Rulemaking for Residential Furnaces and Boilers Standards (July 29, 2004, 69FR45420); Advance Notice of Proposed Rulemaking for Distribution Transformers Standards (July 29, 2004, 69 FR45376); Advance Notice of Proposed Rulemaking for Commercial Unitary Air Conditioners and Heat Pumps Standards (July 29, 2004, 69FR45460); and Supplemental Notice of Proposed Rulemaking for Distribution Transformers Test Procedures (July 29, 2004, 69FR45506); and Final Rule for Residential Central Air Conditioners and Heat Pumps (August 17, 2004, 69FR50997).

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Conduct four rulemakings to amend appliance standards and test procedures (ER1-4d).
  Assessment: Met lest than 80% of the Target

FY 2002

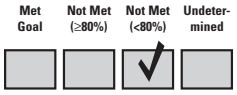
- Publish one proposal for upgrade to the Federal Residential Building codes, and one proposal for upgrade to the Federal Commercial Building codes.
  Assessment: Not Met

FY 2001

- There were no related annual targets in FY 2001.

Associated Annual Target for FY 2004

EE GG 4.04.7



Contribute proportionately to EERE's corporate goal of reducing corporate and program uncosteds to a range of 20-25% by reducing program annual uncosteds by 10% in 2004 relative to the program uncosted baseline (2003) until the target range is met.

Commentary: The Building Technologies Program did not meet its annual target of a ten percent reduction in programs adjusted obligated but uncosted. At the end of the year, the adjusted obligated uncosted (excluding congressionally directed earmarks and Formula Grant activities) was $33,417K (target was $35,150K). The program remains committed to achieving the annual target of reducing uncosteds by 10%. Some of the factors that caused the milestone to be missed include: late appropriation of FY 2004 funds by Congress that adversely impacted EERE's operational activities associated with its budget execution activities; and the major realignment of the EERE field structure to create the project management center function, creating another temporary bottleneck as new systems, processes, and procedures designed to improve financial management are being put into place.

Supporting Documentation: Uncosted data is verified by MARS. EERE Management Action Plan FY 05.

Plan of Action: The program and EE management are carefully monitoring and managing the level of uncosted balances, and working actively with the programs and system support staff to address these issues and to facilitate the accomplishment of this goal. The EERE Management Action Plan FY 05 (October 2004) describes EE actions to reduce uncosteds.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Additional Targets from 2003-2001

FY 2003

- Facilitate a 10 percent increase in commercial building designs that have meaningful consideration of energy efficiency by developing improved design tools, including code compliance tools, and completing six research assisted design case studies in cooperation with industry (ER1-4b).
  Assessment: MET

- Complete investigation of five methods to increase the optimum selection of equipment components for air conditioning and heat pumps (ER1-4c).
  Assessment: MET

- Expand ZEB teams to include more climates and continue partnership with industry to more fully integrate solar electric and thermal energy into buildings (ER1-4e).
  Assessment: MET

FY 2002

- Increase the knowledge base of the residential construction industry by pursing six lines of research investigations focusing on industry identified priorities, e.g. low cost moisture protection, right-sized heating, ventilation and air-conditioning (HVAC) designs, super efficient distribution systems, etc.
  Assessment: MET

- Complete at least 850 highly resource-efficient, cost-effective homes through the Building America consortia, bringing the total number of homes built through the program to more than 4,500.
  Assessment: MET

- Publish one proposal for an upgrade to the Federal Residential Building codes, and one proposal for an upgrade to the Federal Commercial Building codes.
  Assessment: Not Met

- Establish one High Performance Buildings Roadmap implementation framework, leading to the goal of 30% more energy efficient new commercial construction compared to 1996 standard practice.
  Assessment: MET

- Issue two proposals for upgrades and five upgrades to appliance standards and test procedures.
  Assessment: MET

- Implement and improve WINDOW 5 for National Fenestration Ratings Council (NFRC) production runs; train and support NFRC simulators.
  Assessment: MET

- Conclude field demonstrations of heat pump water heaters with utility partners.
  Assessment: MET

FY 2001

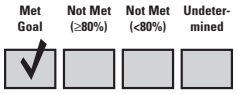
- With Building America Partners, complete 3,000 energy-efficient environmentally sound high performance homes.
  Assessment: Exceeded Goal

- Issue three proposals for upgrades and three upgrades to appliance standards and test procedures. WINDOW 5 was released and approved by National Fenestration Rating Council (NFRC); algorithms were adopted as an International Standards Organization (ISO) standard.
  Assessment: MET

- Complete Phase I field demonstrations of heat pump water heaters, with utility partners.
  Assessment: MET

PROGRAM GOAL:

EE GG 4.05

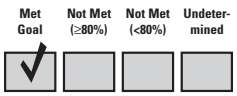


WIND ENERGY: By 2012, complete program technology research and development, collaborative efforts, and provide the technical support and outreach needed to overcome barriers – energy cost, energy market rules and infrastructure, and energy sector acceptance –to enable wind energy to compete with conventional fuels throughout the nation in serving and meeting the Nation's energy needs.

Commentary: Program made progress against the 2012 goal of reducing the cost of electricity from large wind systems in class 4 winds to 3 cents/kWh for onshore systems and 5 cents/kWh for offshore systems.

Associated Annual Target for FY 2004

EE GG 4.05.1



Wind: Complete testing of prototypes for first advanced low wind speed technology components, and complete detailed designs under first public-private partnership projects for full system low wind speed turbine development.

Commentary: Completed testing of prototypes for first advanced low wind speed technology components, and completed detailed designs under first public-private partnership project for full system low wind speed turbine development. The first low wind speed turbine full system detailed design was completed by Clipper Windpower, Inc. and accepted at a formal design review meeting held August 6-7, 2003.

Supporting Documentation: Verified by monthly reports from contractor/national labs including NREL. Determining the cost of energy (COE) for LWST goal will be derived from the impact of improvements in individual components and subsystems will be based on comparisons against a baseline turbine composite with a well-understood cost of energy. Formal design review meeting was held August 6-7, 2003.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Complete low wind speed turbine (LWST) conceptual design studies and fabricate and begin testing advanced wind turbine components optimized for low wind speed application initiated under industry (ER2-2a). **Assessment: MET**

FY 2002

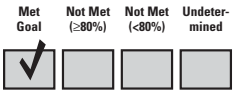
- There were no related annual targets in FY 2002.

FY 2001

- Moved advanced wind hybrid control system technology, developed jointly with USDA Agricultural Research Center, to commercial availability. **Assessment: MET**

Associated Annual Target for FY 2004

EE GG 4.05.2



Contribute proportionately to EERE's corporate goal of reducing corporate and program uncosteds to a range of 20-25% by reducing program annual uncosteds by 10% in 2004 relative to the program uncosted baseline (2003) until the target range is met.

Commentary: The Wind Program exceeded its annual target of a ten percent reduction in programs adjusted obligated but uncosted. At the end of the year, the adjusted obligated uncosted (excluding congressionally directed earmarks and Formula Grant activities) was $18,317K (target was $24,397K). Reducing uncosted leads to program activities occurring sooner leading to greater savings from the program.

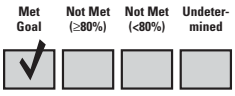
Supporting Documentation: Uncosted data is verified by MARS. EERE Management Action Plan FY 05.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

PROGRAM GOAL:

EE GG 4.06

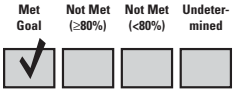


HYDROPOWER: The Hydropower Program's goal is to conduct the R&D necessary to improve hydropower's operational and environmental performance so that hydropower generation is increased because of its affordability, abundance, reliability and environmental benefits. In accomplishing this goal, the program will increase the viability of hydropower, the Nation's most widely used renewable energy source, without construction of new dams.

Commentary: The Hydropower program FY 2004 activities focused on development of advanced technologies that will have enhanced environmental performance and greater energy efficiencies.

Associated Annual Target for FY 2004

EE GG 4.06.1



Complete report comparing field tests and model results for the effects of blade strike on turbine-passed fish.

Commentary: The report, "Comparison of Blade-Strike Modeling Results with Empirical Data," comparing field tests and model results for the effects of blade-strike on turbine passed fish was completed in March 2004. Technology enhancement focuses on reduced effect of blade strike of fish and improved generation efficiency.

Supporting Documentation: Pacific Northwest National Laboratory Report PNNL-14603 dated March 2004, "Comparison of Blade-Strike Modeling Results with Empirical Data" by Gene R. Ploskey and Thomas J. Carlson. This is documented in a September 29, 2004 PNNL letter, which summarizes findings of this report.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Complete the pilot-scale testing of a fish friendly hydroelectric turbine, providing the basis for future full-scale testing at an operational site. Successful testing will provide industry with a proven design, helping attain the 2 percent mortality goal (ER2-2b).
  Assessment: MET

FY 2002

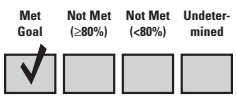
- There were no related annual targets in FY 2002.

FY 2001

- There were no related annual targets in FY 2001.

Associated Annual Target for FY 2004

EE GG 4.06.2



Contribute proportionately to EERE's corporate goal of reducing corporate and program uncosteds to a range of 20-25% by reducing program annual uncosteds by 10% in 2004 relative to the program uncosted baseline (2003) until the target range is met.

Commentary: The Hydropower Program exceeded its annual target of a ten percent reduction in programs adjusted obligated but uncosted. At the end of the year, the adjusted obligated uncosted (excluding congressionally directed earmarks and Formula Grant activities) was $3,022K (target was $3,687K). Reducing uncosted leads to program activities occurring sooner leading to greater savings from the program.

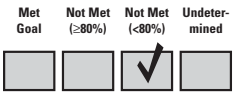
Supporting Documentation: Uncosted data is verified by MARS. EERE Management Action Plan FY05.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

PROGRAM GOAL:

EE GG 4.07

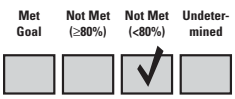


GEOTHERMAL TECHNOLOGY: The Geothermal Program goal is to improve performance and reduce market entry costs of geothermal energy to competitive levels. In quantitative terms, the goal is to reduce the levelized cost of power generated from conventional geothermal sources from 5-8 cents per kWh (kilowatt hour) in 2000 to 3-5 cents per kWh by 2010.

Commentary: In FY 2004, the Geothermal Technologies Program demonstrated improved performance of drag cutter drill bits when used in conjunction with a diagnostics-while-drilling data collection and control system. This improvement reduces the cost of drilling by three to four percent. In FY 2004, the Program also completed design of a small scale power plant with a mixed composition working fluid that showed a four percent improvement in power output relative to conventional pure fluid binary power plants that translates into a 0.2 cent/kWh reduction in the cost of power. The Program made measurable progress toward reducing market costs by implementing state-level technical assistance activities in a total of 14 Western states which are aimed at developing favorable regulatory, environmental, and economic conditions for new geothermal markets.

Associated Annual Target for FY 2004

EE GG 4.07.1



Create an Enhanced Geothermal System (EGS) with an industry partner and test associated technology needed to operate and monitor the system.

Commentary: The initial flow testing of the reservoir was not completed and therefore, no verification of EGS creation. The third quarter milestone to complete massive hydraulic fracturing experiment that would create a reservoir at an EGS was delayed, and rescheduled for November 2004. As a result of this delay, the target was not achieved. The program used the delay to conduct work at another well to gain experience with equipment and techniques to be used during the fracturing experiment. This work also provided data for comparing the response of the reservoir under different injection conditions.

Supporting Documentation: Verified by quarterly reports from contractor/national labs (INEEL. CalPine, Ormat, and University of Utah). Verified by quarterly technical report "Creation of An EGS through Hydraulic and Thermal Stimulation" from industry partners.

Plan of Action: The activity to complete massive hydraulic fracturing experiment that would create a reservoir at an EGS is rescheduled for November 2004. Completion of initial flow testing is rescheduled for April 30, 2005.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Support industry opening and initial operation of a 1 MW small-scale geothermal power plant in the State of New Mexico (ER2-5a).
  Assessment: MET

FY 2002

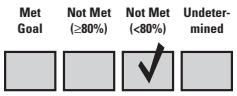
- Complete construction of a small-scale (300 kW to 1 MW) geothermal power plant for field verification.
  Assessment: MET

FY 2001

- Selected industrial partners to build two cost-shared geothermal power plants using Enhanced Geothermal System (EGS) technology.
  Assessment: MET

Associated Annual Target for FY 2004

EE GG 4.07.2



Contribute proportionately to EERE's corporate goal of reducing corporate and program uncosteds to a range of 20-25% by reducing program annual uncosteds by 10% in 2004 relative to the program uncosted baseline (2003) until the target range is met.

Commentary: The Geothermal Technology Program did not meet its annual target of a ten percent reduction in programs adjusted obligated but uncosted. At the end of the year, the adjusted obligated uncosted (excluding congressionally directed earmarks and Formula Grant activities) was $21,644K (target was $18,962K). The program remains committed to achieving the annual target of reducing uncosteds by 10%. Some of the factors that caused the milestone to be missed include: late appropriation of FY 2004 funds by Congress that adversely impacted EERE's operational activities associated with its budget execution activities; and the major realignment of the EERE field structure to create the project management center function, creating another temporary bottleneck as new systems, processes, and procedures designed to improve financial management are being put into place.

Supporting Documentation: Uncosted data is verified by MARS. EERE Management Action Plan FY 05.

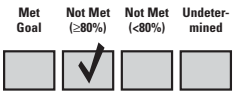
Plan of Action: The program and EE management are carefully monitoring and managing the level of uncosted balances, and working actively with the programs and system support staff to address these issues and to facilitate the accomplishment of this goal. The EERE Management Action Plan FY 05 (October 2004) describes EE actions to reduce uncosteds.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

PROGRAM GOAL:

EE GG 4.08

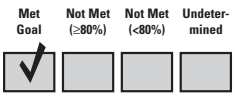


BIOMASS AND BIOREFINERY SYSTEMS R&D: Develop biorefinery-related technologies to the point that they are cost- and performance-competitive and are used by the Nation's transportation, energy, chemical and power industries to meet their market objectives. This helps the Nation by expanding clean, sustainable energy supplies while also improving the Nation's energy infrastructure and reducing our dependence on foreign oil.

Commentary: Advances and completions in the biomass targets maintain the technology road map goals needed for biomass products to move into the marketplace at competitive prices.

Associated Annual Target for FY 2004

EE GG 4.08.a



Demonstrate clean syngas production in three thermochemical conversion systems.

Commentary: NREL completed initial pilot scale testing of a tar reformer for biomass-derived syngas. In meeting this target, the program contributes to the goal of reducing the cost of cleaned and reformed biomass-derived synthesis gas. NREL operated a full stream reformer (FSR) sized to accommodate the output of a 140 kWthermal biomass gasifier-41 Normal meters cubed per hour at temperatures and pressures up to 900°C and 140 kilo-Pascal. The FSR is a 35.6 cm diameter bubbling fluidized bed with a nominal charge of 60 kg of catalyst. The FSR was operated on a product gas with 9-13% methane (dry), 1500-1900 parts per million volume benzene, 320-440 parts per million volume naphthalene, and a steam-to-carbon ration of 1.1-1.6. Both olivine and a proprietary catalyst (Potassium/Magnesium promoted Ni/a-alumina) were used. The catalyst was tested at three feed rates (10-20kg/h biomass) and four temperatures (800-875°C) over a period of nine days. The maximum destruction rates for benzene, toluene, naphthalene, cresol, phenanthrene, and total tar measured by molecular beam mass spectrometry ranged from 95-100% over the fresh or newly regenerated catalyst.

Supporting Documentation: Phillip, S., D. Carpenter, D. Dayton, C. Feik, R. French, and M. Ratcliff (2004). "Preliminary Report on the Performance of Full Stream Tar Reformer,"NREL Milestone Completion Report, ID: FY04-570, National Renewable Energy Laboratory, Golden, CO, 76p, September.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Establish testing program at three existing gasifiers at partner sites for the development and application of technology components (e.g. gas clean-up, gas engines, fuel cells, etc.) that need to be integrated with the gasification components to produce power, fuels, and chemicals (ER2-3b).
  Assessment: Met less than 80% of the Target

FY 2002

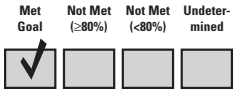
- There were no related annual targets in FY 2002.

FY 2001

- There were no related annual targets in FY 2001.

Associated Annual Target for FY 2004

EE GG 4.08.b Complete testing of ethanol production from corn fiber in partnership with industry in order to achieve a 3 percent increase in ethanol production from each corn ethanol plant that successfully implements the technology without requiring additional corn feedstock.



Commentary: Completed testing of ethanol production from corn bran in bench-scale fermentation tests that demonstrated increased ethanol production relative to current corn ethanol technology. NREL reported that, Dakota Bran, a corn feedstock, was dilute-acid pretreated and the resulting hydrolysate slurry was run through two bench-scale fermentations. The Broin's bench-scale runs were based on criteria developed to ensure optimal running conditions (acid concentration, temperature, yeast concentration, etc.) based on engineering theory and experience. In addition, Archer Daniels Midland's testing of ethanol production from corn fiber supports the objective of 3 percent increase in ethanol production from corn ethanol plants. In meeting this target, the program contributes to the goal of accelerating the use of cellulosic feedstock at existing ethanol plants.

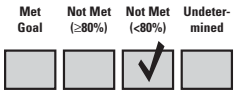
Supporting Documentation: NREL Report dated September 30, 2004. On October 6, 2004, ADM provided a technical note to the Golden Field Office.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

EE GG 4.08.c Contribute proportionately to EERE's corporate goal of reducing corporate and program uncosteds to a range of 20-25% by reducing program annual uncosteds by 10% in 2004 relative to the program uncosted baseline (2003) until the target range is met.



Commentary: The Biomass and Biorefinery Systems R&D Program did not meet its annual target of a ten percent reduction in programs adjusted obligated but uncosted. At the end of the year, the adjusted obligated uncosted (excluding congressionally directed earmarks and Formula Grant activities) was $62,235K (target was $55,299K). The program remains committed to achieving the annual target of reducing uncosteds by 10%. Some of the factors that caused the milestone to be missed include: late appropriation of FY 2004 funds by Congress that adversely impacted EERE's operational activities associated with its budget execution activities; and the major realignment of the EERE field structure to create the project management center function, creating another temporary bottleneck as new systems, processes, and procedures designed to improve financial management are being put into place.

Supporting Documentation: Uncosted data is verified by MARS. EERE Management Action Plan FY 05.

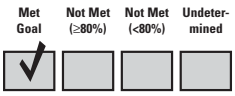
Plan of Action: The program and EE management are carefully monitoring and managing the level of uncosted balances, and working actively with the programs and system support staff to address these issues and to facilitate the accomplishment of this goal. The EERE Management Action Plan FY 05 (October 2004) describes EE actions to reduce uncosteds.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

EE GG 4.08.d



Complete validation of one new biobased product technology, with long-term potential of greater than 2 billion lbs./yr. sales, at the pilot scale for economic, technical, and product viability in partnership with industry.

Commentary: Pittsburgh State University and their industrial partner identified a soy polyol that has commercial potential. Dow Chemical's characterization of the gene promoters facilitates their team's ability to grow and develop plants that are viable for commercially producing plant oils for chemical manufacturing applications. By meeting the annual target, the program is contributing to the goal of developing cost-competitive and energy-efficient bio-based products technologies.

Supporting Documentation: Life Assessment Report. Quarterly Reports. An August 11, 2004, report to GFO from Dow Chemical. GFO received additional information on the achievement on September 30, 2004.

Related Annual Targets (FY 2003 - FY 2001)

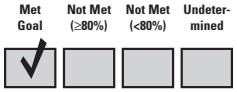
FY 2003
- In partnership with industry, complete pilot scale demonstration of two new biobased product technologies for economic, technical, and product performance (ER2-3c).
  Assessment: MET

FY 2002
- There were no related annual targets in FY 2002.

FY 2001
- There were no related annual targets in FY 2001.

Associated Annual Target for FY 2004

EE GG 4.08.e



With industry partners, a new biobased product technology advances to scale-up with partners' intention to commercialize in a new industrial biorefinery by FY 2008. The biorefinery will be at pilot scale.

Commentary: With industry partners, Cargill and Almagamated, a new biobased product technology was advanced to scale-up, with partner's intended to commercialize by FY 2008. Almagamated's bio-based product technology advancements provide information that can be used to engineer scaled up designs for use in industrial applications. Cargill Dow's progress will allow their biomass technology to be scaled up by 2008. Cargill Dow has begun strain optimization and process development on C1 (proprietary designation for this strain). The strain optimization is directed at improving rate and yield. The process development is being done in 5-liter fermentors with seed propagation, batch and continuous configurations under investigation. By meeting the annual target, the program is contributing to the goal of developing cost-competitive and energy-efficient bio-based products technologies.

Supporting Documentation: Cargill Dow's quarterly report CM04011.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- A 2-cycle engine oil derived from soy oil is commercialized for the emerging bioproducts industry (ER2-3d).
  Assessment: Met less than 80% of the Target

FY 2002

- There were no related annual targets in FY 2002.

FY 2001

- There were no related annual targets in FY 2001.

Additional Targets from 2003-2001

FY 2003

- Develop an improved enzyme preparation for reducing the cost of producing ethanol from biomass. Evaluate its impact on production costs using an updated computer model of the production process (ER2-3a).
  Assessment: MET

- Complete the thermo chemical options analysis to assess various pathways to fuels (e.g., F-T, gasoline, diesel, alcohols) (ER2-3e).
  Assessment: MET

FY 2002

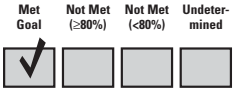
- Develop a prototype yeast capable of fermenting multiple biomass-derived sugars to meet cost goals for the ethanol/gasoline blend markets.
  Assessment: Not Met

FY 2001

- Conduct competitive solicitation and select at least one partner for demonstrating the conversion of cellulosic feedstock at a corn ethanol plant.
  Assessment: MET

PROGRAM GOAL:

EE GG 4.09

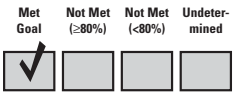


WEATHERIZATION: The mission of the Weatherization Assistance Program is to increase the energy efficiency of dwellings occupied by low-income Americans, thereby reducing their energy costs, while safeguarding their health and safety. DOE works directly with States and local governments, which contract with local governmental or non-profit agencies to deliver weatherization services.

Commentary: Weatherizing homes help to reduce the energy costs of low-income family homes.

Associated Annual Target for FY 2004

EE GG 4.09.1



Weatherize 94,450 homes with DOE funds. Cumulative total of 2.8 million homes will be weatherized with DOE funds. Cumulative total of 5.4 million homes will be weatherized with DOE and leveraged funds.

Commentary: The Weatherization Assistance Program exceeded the FY 2004 annual target by weatherizing 99,614 homes in FY 2004, reaching a cumulative total of 2.8 million homes with DOE funds and, reaching a cumulative total of 5.4 million homes with DOE and leveraged funds. Weatherization of low-income family homes helps to reduce energy costs for these families.

Supporting Documentation: Reports are submitted by the States through the WinSAGA system.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Award $223 million in FY 2003 funds through 53 Weatherization program grants, including all 50 states, to enable the direct weatherization of 93,000 homes. This will bring the cumulative number of homes weatherized to over 5.2 million (ER3-1a).
  Assessment: MET

FY 2002

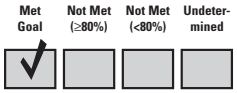
- Weatherize 105,000 homes, bringing the total number of homes weatherized to 5.1 million. The weatherization assistance program reassessed the total number of homes weatherized between FY 2001 and FY 2002.
  Assessment: MET

FY 2001

- Weatherized 75,350 homes, bringing the total number of homes weatherized to 4.8 million.
  Assessment: MET

Associated Annual Target for FY 2004

EE GG 4.09.2



Contribute proportionately to EERE's corporate goal of reducing corporate and program uncosteds to a range of 20-25% by reducing program annual uncosteds by 10% in 2004 relative to the program uncosted baseline (2003) until the target range is met.

Commentary: The Weatherization Program did contribute proportionately to EERE's corporate goal of reducing corporate and program uncosted.

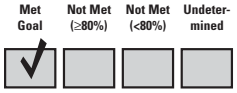
Supporting Documentation: Uncosted data is verified by MARS. EERE Management Action Plan FY 05.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

PROGRAM GOAL:

EE GG 4.10

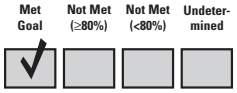


STATE ENERGY PROGRAMS: The State Energy Program goal is to strengthen and support the capabilities of States to promote energy efficiency and to adopt renewable energy technologies, helping the Nation achieve a stronger economy, a cleaner environment and greater energy security.

Commentary: The State Energy Program assisted states in developing emergency energy plans and fostered clean, reliable, and diverse energy supplies.

Associated Annual Target for FY 2004

EE GG 4.10.1



Achieve an annual energy savings of 52,406,390 source Btu's and $317,772,960 in annual energy cost savings by awarding $43,952,000 in grants to States and Territories.

Commentary: The Regional Offices and NETL received applications from all states and awarded a cumulative total of $43.952 million in State Energy Program formula grants. Awards are made in accordance with the States fiscal year requirements. In 2003, Oak Ridge National Lab released a report describing a methodology to estimate energy and cost savings from State Energy Program funded activities. Based on this methodology, the program estimates energy savings of 52.4 million source btu's and a cost savings $317.7 million. (These figures include benefits from "leveraged dollars"; benefits of direct program funding are less than one fourth of those reported.)

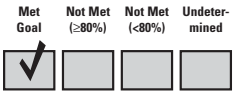
Supporting Documentation: Grants awards as reported in the CPS, State Energy Reports, Metrics Study ("Estimating Energy and Cost Savings and Emissions Reductions for the State Energy Program Based on Enumeration Indicators Data" ORNL/CON-487, January 2003.).

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

EE GG 4.10.2



Contribute proportionately to EERE's corporate goal of reducing corporate and program uncosteds to a range of 20-25% by reducing program annual uncosteds by 10% in 2004 relative to the program uncosted baseline (2003) until the target range is met.

Commentary: The State Energy Program did contribute proportionately to EERE's corporate goal of reducing corporate and program uncosted.

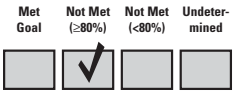
Supporting Documentation: Uncosted data is verified by MARS. EERE Management Action Plan FY 05.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

PROGRAM GOAL:

EE GG 4.11

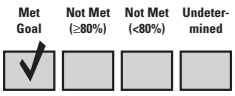


INTERGOVERNMENTAL ACTIVITIES: Accelerate the adoption of clean, efficient and domestic energy technologies through efficient intergovernmental demonstration and delivery of cost-effective energy technologies which will benefit the public through improved energy productivity and reduced demand and particularly reduce the burden of energy cost on the disadvantaged.

Commentary: The Intergovernmental programs focused on accelerating the adoption of clean, efficient and domestic energy technologies through programs that included: International Renewable Energy Program; Tribal Energy Activities; Renewable Energy Production Initiative; Energy Star; Rebuild America; Clean Cities; Commercial and Residential Codes; Inventions and Innovations; and Energy Efficiency Information Outreach.

Associated Annual Target for FY 2004

EE GG 4.11.1



International Renewable Energy will strengthen and broaden activities supporting priority agreements, e.g. expanded the harmonization of standards to additional countries, ramped up implementation of the Energy Efficiency and Village Energy initiatives. Continue to work with APEC (Asian Pacific Economic Cooperation) and NAEWG (North American Energy Working Group).

Commentary: International Renewable Energy succeeded in supporting priority agreements and providing technical support to Asian Pacific Economic Cooperation (APEC) and the North American Energy Working Group (NAEWG). The target for support for APEC Financing Workshop was met by developing a special briefing package on financing renewable energy that was delivered to the APEC energy ministers at their meeting in June 2004.

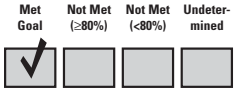
Supporting Documentation: Trip reports from national labs reports from NREL, PNNL, and LBNL. A special briefing package on financing renewable energy.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

EE GG 4.11.2



Assist over 500 new and existing Rebuild America community partnerships upgrade 70 million square feet of floor space in K-12 schools, colleges, public housing, and state/local governments reducing the average energy used in these buildings by 18%.

Commentary: Rebuild America exceeded the FY 2004 annual target by renovating 130 million square feet. This expansion of completed square feet retrofitted was due to the program emphasis on multi-family residences and colleges and universities which are self-sustaining partners with larger projects. In addition States are increasingly utilizing Rebuild America's technical assistance network. The average energy saved in Rebuild America is 18%.

Supporting Documentation: Verified by Rebuild America partners who directly input data into partner website. Data is developed in a project report available to partners and management. Reported by project, market sector, status (completed or committed), and nature of Rebuild assistance. Program conducts sample validations of partner input by sector.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Assist 450 Rebuild America community partnerships, upgrade 80 million square feet of floor space in K-12 schools, colleges, public housing, and State and local governments (ER3-1b).
  Assessment: MET

FY 2002

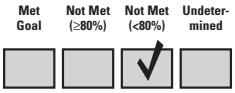
- Establish 40 new Rebuild America community partnerships, and assist these communities to retrofit 80 million square feet of floor space in K-12 schools, colleges, public housing, and State and local governments.
  Assessment: MET

FY 2001

- Establish 40 new Rebuild America community partnerships, and assist these communities to retrofit 80 million square feet of floor space in K-12 schools, colleges, public housing, and State and local governments.
  Assessment: MET

Associated Annual Target for FY 2004

EE GG 4.11.3



Clean Cities will conduct 7 major workshops, award $6 million in special project funding, and report a total of 180,000 number of alternative fuel vehicles in operation in clean cities. Achieving these outcomes will result in an estimate displacement of 153 million gallons of petroleum based fuels.

Commentary: Clean Cities issued $5.4 million in Special Project Funding for 66 cost-share projects to pay the incremental costs of Alternative Fuel Vehicles (AFVs), build fueling stations, and provide coalition support. The target was not met for vehicles. In the reporting period, 172,000 AFVs were added, displacing 147 M gallons of petroleum. The program has developed an action plan which includes a strategy for increasing petroleum displacement with an expanded portfolio of transportation technologies.

Supporting Documentation: Data collected from annual survey is reported by QSS Group, Inc. who work with national directors of Clean City coalitions to disseminate the information. Meeting materials and lists of attendees. Calculations for fuel displacement are based on survey results applying fuel displacement.

Plan of Action: The program has developed an action plan included in the Clean Cities Roadmap, completed in May 2004, which includes a strategy for increasing petroleum displacement with an expanded portfolio of transportation technologies. The planning and coordination for this development have been ongoing since March 2004 and are expected to begin being implemented in FY 2005.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Achieve a total of 135,000 alternative fuel vehicles in operation in Clean Cities which will displace 180 million gallons of gasoline and diesel in a year (ER3-1c).
  Assessment: MET

FY 2002

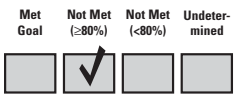
- Achieve 135,000 alternative fuel vehicles in operation in Clean Cities.
  Assessment: MET

FY 2001

- Support the annual acquisition of 12,000 alternative fuel vehicles in the Federal fleet.
  Assessment: MET

Associated Annual Target for FY 2004

EE GG 4.11.4



Recruit 500 additional retail stores, five additional utilities and 10 additional manufacturers. Add domestic hot water heaters to the program. Begin work on a Commercial Window Specification. Expand room air-conditioner program to include heating cycle. Continue outreach to non-English speaking communities and Weatherization activities.

Commentary: ENERGY STAR exceeded the annual target by recruiting over 3,300 retail stores, 5 additional utilities and 10 additional manufacturers due to signing on Brand Source, Best Buy, and Big Lots stores as partners. ENERGY STAR worked with states such as Nevada on expanding outreach to non-English speaking communities, and coordinated with the Weatherization Assistance Program on bulk CFL purchases. The Program expanded room air-conditioning to include units with a heating cycle which is expected to be approved in November 2004. The Program decided not to develop a commercial window specification due to the programmatic approach of taking a whole building approach. ENERGY STAR did not pursue developing criteria for domestic hot water heaters as the market is not developed for non-conventional technologies.

Supporting Documentation: Based on updated store lists submitted by Energy Star retail partners. In addition figures are also collected and submitted by state and local energy efficiency groups such as NYSERDA, Applied Proactive Technologies and others. After retailer and partner information is submitted, lists are cross-checked to avoid duplication. Data is entered into I-STAR database which is reported on through internal memos to program.

Plan of Action: For two of the components of the target, the program has changed direction and will not pursue developing a commercial window specification due to the programmatic approach of taking a whole building approach. Additionally, ENERGY STAR will not pursue developing criteria for domestic hot water heaters as the market is not developed for non-conventional technologies.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Recruit 375 additional Energy Star partners including retail stores, utilities, and manufacturers (ER3-1d).
  Assessment: MET

FY 2002

- Recruit 500 additional retail stores, five additional utilities, and three additional manufacturers, bringing the total number of stores marketing ENERGY STAR appliances to 7,000.
  Assessment: MET

FY 2001

- Recruit 400 new ENERGY STAR partners, bringing the total number of stores marketing ENERGY STAR appliances to 6,500.
  Assessment: Exceeded Goal

Associated Annual Target for FY 2004

EE GG 4.11.5 Contribute proportionately to EERE's corporate goal of reducing corporate and program uncosteds to a range of 20-25% by reducing program annual uncosteds by 10% in 2004 relative to the program uncosted baseline (2003) until the target range is met.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
		✓	

Commentary: The Intergovernmental Program did not meet its annual target of a ten percent reduction in programs adjusted obligated but uncosted. At the end of the year, the adjusted obligated uncosted (excluding congressionally directed earmarks and Formula Grant activities) was $52,046K (target was $54,951K). The program remains committed to achieving the annual target of reducing uncosteds by 10%. Some of the factors that caused the milestone to be missed include: late appropriation of FY 2004 funds by Congress that adversely impacted EERE's operational activities associated with its budget execution activities; and the major realignment of the EERE field structure to create the project management center function, creating another temporary bottleneck as new systems, processes, and procedures designed to improve financial management are being put into place.

Supporting Documentation: Uncosted data is verified by MARS. EERE Management Action Plan FY 05.

Plan of Action: The program and EE management are carefully monitoring and managing the level of uncosted balances, and working actively with the programs and system support staff to address these issues and to facilitate the accomplishment of this goal. The EERE Management Action Plan FY05 (October 2004) describes EE actions to reduce uncosteds.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

EE GG 4.11.6 Tribal Energy will conduct 6 technical and policy development workshops.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
		✓	

Commentary: Four technical and policy development workshops were held this year. The remaining two will be held conducted in FY 2005. Tribal Energy negotiated with the Council of Energy Resource Tribes (CERT) to conduct six regional workshops to inform Tribal leaders of the benefits and steps necessary to implement renewable energy technologies on Tribal lands. CERT was able to conduct only four regional workshops in FY 2004. The remaining workshops will be held in FY 2005.

Supporting Documentation: Records on attendance and workshop material maintained at NREL.

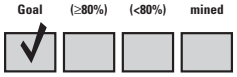
Plan of Action: The two regional workshops will be held in FY 2005.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

EE GG 4.11.7 Continue Program (National Industrial Competitiveness through Energy, Environment, and Economics – NICE3) Closeout Initiated in FY 2003.



Commentary: Progress tracked on NICE3 projects being closed out. Reports are from participants to the EERE regional offices.

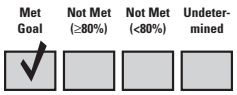
Supporting Documentation: Reports from recipients of NICE3 grants provided to Regional offices.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

EE GG 4.11.8 Provide technical assistance to States resulting in 4 States adopting upgraded 2001 and 2003 model commercial or residential building energy codes. Train 2,000 architects, engineers, builders and code officials to implement the above codes and upgraded 2004 model commercial code.



Commentary: Technical assistance was provided to New York, Pennsylvania, Nebraska, and Idaho, resulting in adopting upgraded 2001 and 2003 model commercial or residential building energy codes. There were 5,027 architects, engineers, builders and code officials trained. The adoption of incrementally increased model codes and training of architects, engineers, builders and code officials to comply with the codes, increases the baseline building stock efficiency.

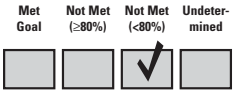
Supporting Documentation: State certifications are provided to Regional offices. Reports on training are provided by contractors and Regional Offices.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

PROGRAM GOAL:

EE GG 4.13

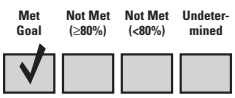


DEPARTMENTAL ENERGY MANAGEMENT PROGRAM / FEDERAL ENERGY MANAGEMENT PROGRAMS The Departmental Energy Management Program (DEMP) goal is to provide direct funding and energy efficiency related technical assistance to Departmental facilities such that the energy intensity in standard buildings is reduced by 45 percent by 2010. The Federal Energy Management Program (FEMP) goal is to provide technical and financial assistance to Federal agencies and thereby lead the Nation by example in use of energy efficiency and renewable energy. Through the Federal Government's own actions, FEMP's target is to reduce energy intensity in Federal buildings by 35% by 2010 (relative to the 1985 statutory baseline level of 138,610 Btu per square foot).

Commentary: DEMP selected 10 new energy efficiency projects that will contribute to the overall goal of reducing energy intensity at DOE facilities. FEMP provided technical and design assistance to 66 energy efficiency, renewable energy and other projects and trained 4,450 federal workers in energy management best practices.

Associated Annual Target for FY 2004

EE GG 4.13.a



Complete the selection for funding of 4 to 13 energy efficiency projects through a competitive selection process that chooses those projects with the greatest return on investment.

Commentary: DEMP has achieved its annual target by funding 10 energy efficiency projects through a competitive selection process that chooses those projects with the greatest return on investment. By selecting 10 new projects, DEMP has contributed to its overall goal of reducing the energy intensity at Department of Energy facilities.

Supporting Documentation: The source for verification is the Department's Corporate Planning System (CPS) which includes detailed information on each project selected for funding including the month the project is funded. Also, CPS generates a letter describing the funding and the project which is signed and sent to the Department of Energy facility receiving the funding. This letter is copied onto the "P" drive of the Office of Energy Efficiency and Renewable Energy, and a copy is sent to the DEMP program manager.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Complete the selection process for between four and twelve energy projects that will reduce the annual energy use in DOE facilities by 15 billion Btu's (ER1-1f).
  Assessment: MET

FY 2002

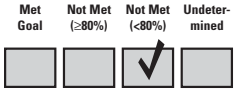
- Continue efforts to reduce energy intensity in Federal buildings by 24% by the end of FY 2002 as compared to 1985 energy use.
  Assessment: MET

FY 2001

- Continue efforts to reduce energy intensity in Federal buildings and reported the results achieved through the end of FY 1999, toward the goal of achieving a 22% reduction by the end of FY 2001 as compared to 1985 intensity. Preliminary data suggests that agencies exceeded this goal a year early, achieving a 23.6% reduction in energy intensity in 2000. **Assessment: Exceeded Goal**

Associated Annual Target for FY 2004

EE GG 4.13.b



Contribute proportionately to EERE's corporate goal of reducing corporate and program uncosteds to a range of 20-25% by reducing program annual uncosteds by 10% in 2004 relative to the program uncosted baseline (2003) until the target range is met.

Commentary: Compared to FY 2003, FEMP reduced its uncosted obligations by 3 percent in FY 2004 which is below the targeted reduction of 10 percent. However, had the amount of obligations in FY 2004 stayed at the same level as FY 2003, FEMP would have exceeded its goal by decreasing uncosted obligations by 15 percent. Also, compared to FY 2003, FEMP reduced its combined uncosted obligations and unobligated funds by 13 percent in FY 2004 which shows FEMP has achieved significant gains in moving more of its funds closer to their intended use.

Supporting Documentation: Uncosted data is verified by MARS. EERE Management Action Plan FY 05.

Plan of Action: The program and EE management are carefully monitoring and managing the level of uncosted balances, and working actively with the programs and system support staff to address these issues and to facilitate the accomplishment of this goal. The EERE Management Action Plan FY 05 (October 2004) describes EE actions to reduce uncosteds.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

EE GG 4.13.c Will achieve between $35 and $55 million in private sector, investment through Super Energy Savings Performance Contracts (ESPCs), contributing to national energy security.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
		✓	

Commentary: Because its legislative authority for ESPCs expired at the end of FY 2003 and has not yet been reinstated, FEMP did not achieve its target for FY 2004. In FY 2004, $5 million was awarded for modifications of ESPC contracts that existed prior to FY 2004. These modifications contribute to FEMP's overall goal of reducing energy intensity in Federal buildings by 35 percent in 2010 compared to the baseline year of 1985. In anticipation of reauthorization in pending legislation in FY 2004, FEMP encouraged Agencies and energy service companies to conduct preliminary work on projects for potential ESPC contracts, short of an ESPC contract being awarded. This created a "pipeline" of projects ready to be awarded when reauthorization took place. Before the end of FY 2004, enough projects were in this pipeline such that FEMP could have exceeded its goal of $35 million in private sector investment in ESPCs, if it had attained the legal authority to award ESPC contracts for those in the "pipeline".

Supporting Documentation: The source of verification for each project is the letter or portion of the contract from the Energy Service Company (ESCO) to the Federal agency receiving the award which provides details about the project including the amount that the ESCO will invest at the federal agency and the date that the contract was awarded. A copy of these letters or portions of a contract are kept at FEMP/DOE headquarters.

Plan of Action: In anticipation of reauthorization in pending legislation in early FY 2005, FEMP is encouraging Agencies and energy service companies to conduct preliminary work on projects for potential ESPC contracts, short of an ESPC contract being awarded. FEMP is ready to expedite this backlog of projects in FY 2005 once contracting authority is reinstated.

Related Annual Targets (FY 2003 - FY 2001)

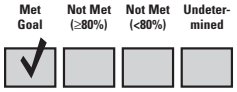
FY 2003
- Achieve between $80 and $120 million in private sector ESPC investment (ER 1-1b).
  Assessment: MET

FY 2002
- Achieve between $80 and $120 million in private sector ESPC investment.
  Assessment: MET

FY 2001
- Achieve $120 million in private sector investment through Super ESPCs.
  Assessment: MET

Associated Annual Target for FY 2004

EE GG 4.13.d Will provide technical and design assistance for 60 energy efficiency, renewable energy, Operations and Maintenance (O&M), Distributed Energy Resource (DER)/Combined Heat and Power (CHP), and water conservation projects.



Commentary: FEMP provided technical and design assistance for 66 energy efficiency, renewable energy and other projects in FY 2004, exceeding its goal of 60 projects. These projects help FEMP attain its overall goal of reducing energy intensity in federal buildings by 35 percent in 2010 as compared to the baseline year of 1985.

Supporting Documentation: The sources of verification are memos, letters or reports from DOE National Laboratories and other contractors that provide information about each of the projects started in a particular quarter within 14 days after the quarter has ended. Copies of the letters, memos and reports will be kept at DOE/FEMP headquarters. The contractors providing the technical assistance were the National Renewable Energy Laboratory, Pacific Northwest National Laboratory, Lawrence Berkeley National Laboratory, Oak Ridge National Laboratory, Sandia National Laboratory and ERM, Inc.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Provide technical and design assistance for more than 40 energy efficiency, renewable energy, and water conservation projects; 10 will be large-scale distributed energy resources and combined heat and power projects. Report results achieved through the end of FY 2002 (ER1-1a).
  Assessment: MET

FY 2002

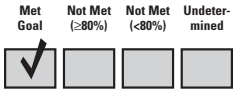
- Provide technical and design assistance for more than 40 energy efficiency, renewable energy, and water conservation projects; 10 will be large-scale distributed energy resources and combined heat and power projects.
  Assessment: MET

FY 2001

- There were no related annual targets in FY 2001.

Associated Annual Target for FY 2004

EE GG 4.13.e Will train 4,000 Federal energy attendees in energy management best practices supporting National Energy Policy education goals.



Commentary: FEMP trained 4,450 federal workers in 28 workshops this year, exceeding the target of 4000. This training supports the FEMP goal of reducing energy intensity in federal buildings by 35 percent in 2010 compared to the baseline year of 1985.

Supporting Documentation: The sources of verification are the written memos or reports received from each DOE National Laboratory or other contractor who conducted a training workshop. These reports include the number of attendees, subject title, date and location of each workshop. The contractors providing the training were the National Renewable Energy Laboratory, Pacific Northwest National Laboratory, Lawrence Berkeley National Laboratory, Oak Ridge National Laboratory, Sandia National Laboratory and ERM, Inc.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Train 4,000 Federal energy personnel in best practices supporting National Energy Policy education goals (ER1-1e).
  Assessment: MET

FY 2002

- Train 4,000 Federal energy personnel in best practices supporting National Energy Policy education goals.
  Assessment: MET

FY 2001

- There were no related annual targets in FY 2001.

Additional Targets from 2003-2001

FY 2003

- Complete at least 35 energy assessments including SAVEnergy Audits, industrial facility assessments and operation and maintenance assessments to identify energy and cost saving opportunities (ER1-1c).
  Assessment: MET

- Integrate information on standby power into Defense Logistics Agency and General Services Administration's product schedules in accordance with E.O. 13221 (ER1-1d).
  Assessment: MET

FY 2002

- Complete at least 60 energy assessments including SAVEnergy Audits, industrial facility assessments and operation and maintenance assessments to identify energy and cost saving opportunities.
  Assessment: MET

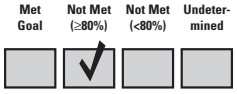
- Publishing initial listing of products that use minimal standby power by December 31, 2001, in accordance with E.O. 13221.
  Assessment: MET

FY 2001

- There were no additional targets in FY 2001.

PROGRAM GOAL:

EE GG 4.59

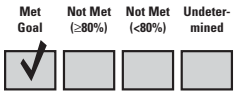


DISTRIBUTED ENERGY RESOURCES: The Distributed Energy Resources Program goal is to develop and facilitate market adoption of a diverse array of cost competitive integrated distributed generation and thermal energy technologies in homes, businesses, industry, communities, and electricity companies, increasing the efficiency of electricity generation, delivery, and use, improving electricity reliability, and reducing environmental impacts.

Commentary: To achieve this goal, the Distributed Energy Resources Program is undertaking research to improve microturbines, advanced reciprocating engines, and industrial gas turbines for power generation, as well as researching thermally activated technologies. The focus of the program is to improve the efficiency and integration of equipment that operates off of the waste heat of these power generators.

Associated Annual Target for FY 2004

EE GG 4.59.1



Complete final design and initiate field testing of low emission technology with less than 7 ppm Nox.

Commentary: The target was achieved by completing the final design and initiating field testing of the low emission gas turbine with Xonon Combustor, located at Nuovo Pignone. Achievement of this target is a key step in achieving the Distributed Energy Resources goal of developing a portfolio of distributed generation technologies that show an average 25 percent increase in efficiency and Nox emissions less than 0.15 lbs/Mwh.

Supporting Documentation: Information on year-end status was presented in the August 2004 update from Catalytica, and will also be available in the Official Quarterly Project Report.

Related Annual Targets (FY 2003 - FY 2001)

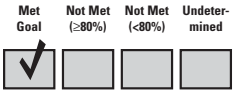
FY 2003
- Complete 4000-hour field test of ceramic composite shroud components to demonstrate performance and emission benefits to a gas turbine (ER1-5b). **Assessment: MET**

FY 2002
- There were no related annual targets in FY 2002.

FY 2001
- There were no related annual targets in FY 2001.

Associated Annual Target for FY 2004

EE GG 4.59.2 Complete and demonstrate heating coefficient of performance of 1.4 for commercial introduction of a thermally activated system (approximately 40 percent more efficient than a conventional heating system).



Commentary: The target was achieved by completing and demonstrating three reversing heat pumps in Boulder City, Nevada, which achieved a heating coefficient of performance (COP) of 1.4. Achievement of this target is a key step in achieving the Distributed Energy Resources goal of demonstrating integrated combined heat and power systems that achieve a 70 percent efficiency and a payback of less than 4 years.

Supporting Documentation: Rocky Research Report Update on the High Efficiency Thermally Activated System, June 30, 2004. The October 1, 2004, Update entitled "Three Reversing Heat Pump Target Milestone Report."

Related Annual Targets (FY 2003 - FY 2001)

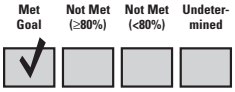
FY 2003
- Complete the 12 Beta Field Test Units of high efficiency natural gas fired heat pump (60 percent better than pulse combustion furnace) and install at field test sites hosted by major U.S. gas utilities (ER1-5a).
  Assessment: MET

FY 2002
- There were no related annual targets in FY 2002.

FY 2001
- There were no related annual targets in FY 2001.

Associated Annual Target for FY 2004

EE GG 4.59.3 Demonstrate 6 percentage point increase in efficiency for an advanced reciprocating engine.



Commentary: Achieved target by demonstrating a 6 percentage point increase in efficiency for the Advanced Reciprocating Engine System (ARES). Caterpillar tested the ARES and realized a 44 percent heating value efficiency in extended testing under laboratory conditions, which increases the efficiency from 36% for conventional reciprocating engines, as required. Achievement of this target is a key step in achieving the Distributed Energy Resources goal of developing a portfolio of distributed generation technologies that show an average 25 percent increase in efficiency and Nox emissions less than 0.15 lbs/Mwh.

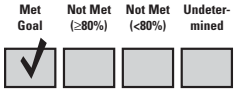
Supporting Documentation: ARES Monthly Project Report on the Advanced Gas Engine Control System, July 2004. This information is available in the Phase 1 Report for October 2004, prepared by Caterpillar.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

EE GG 4.59.4 Complete final design and initiate field testing and evaluation of a complete, fully functional integrated CHP system consisting of a turbine, absorption chiller and control system.



Commentary: The target was achieved by completing the final design and initiating field testing and evaluation of a fully functional integrated CHP system at the Ft. Bragg military base in North Carolina. Achievement of this target is a key step in achieving the Distributed Energy Resources goal of demonstrating integrated combined heat and power systems that achieve 70 percent efficiency and a payback of 4 years.

Supporting Documentation: Honeywell Monthly Update Report on integrated CHP system. This information is reported in the Honeywell Monthly Update Report for September 2004.

Related Annual Targets (FY 2003 - FY 2001)

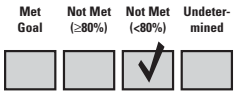
FY 2003
- There were no related annual targets in FY 2003.

FY 2002
- Demonstrate a micro-turbine package (highly efficient for reducing peak loads) at a university site.
  Assessment: MET

FY 2001
- There were no related annual targets in FY 2001.

Associated Annual Target for FY 2004

EE GG 4.59.5 Contribute proportionately to EERE's corporate goal of reducing corporate and program uncosteds to a range of 20-25% by reducing program annual uncosteds by 10% in 2004 relative to the program uncosted baseline (2003) until the target range is met.



Commentary: The goal was not met in FY 2004. EERE's effort to consolidate project management functions led the Distributed Energy Program to shift project management twice during the fiscal year. The delays caused by transfers dramatically slowed the execution of funds. Now that project management is situated at NETL, we anticipate that the uncosted target will once again be met.

Supporting Documentation: Uncosted data is verified by MARS. EERE Management Action Plan FY 05.

Plan of Action: Now that project management is stable at NETL, the program expects that the uncosted target will once again be met. Therefore no Plan of Action is required to meet the target in FY05.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Additional Targets from 2003-2001

FY 2003
- Contract with three companies to support research on demonstrating a 5 percent increase in efficiency for an advanced micro-turbine system (ER1-5c).
  Assessment: MET

FY 2002
- There were no additional targets in FY 2002.

FY 2001
- There were no additional targets in FY 2001.

PROGRAM GOAL:

EE GG 4.60

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
✓			

INDUSTRIAL TECHNOLOGIES: The Industrial Technologies Program goal is to partner with our most energy-intensive industries in strategic planning and energy-specific Research, Development, and Demonstration (RD&D) to develop the technologies needed to use energy efficiently in their industrial processes and cost-effectively generate much of the energy they consume. The result of these activities will save feedstock and process energy, create domestic supply, improve the environmental performance of industry, and help America's economic competitiveness.

Commentary: The long-term goal is to contribute to a decrease in the energy intensity of energy-intensive industries, and activities conduced during FY 2004 supported that goal. Six new industrial energy efficiency technologies were commercialized and 8,289 energy-intensive U.S. plants are applying EERE technologies and services to save energy.

Associated Annual Target for FY 2004

EE GG 4.60.1

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
✓			

An additional 600 (leading to a cumulative 6800) energy intensive U.S. plants will apply EERE technologies and services averaging a 5 percent improvement in energy productivity per plant.

Commentary: There were an additional 2089 unique U. S. plants that applied energy efficiency and renewable energy technologies and services averaging a 5 percent improvement in energy productivity per plant. This leads to a cumulative number of 8289 plants added to date.

Supporting Documentation: Lawrence Berkeley National Laboratory and Project Performance Corporation produce a quarterly report with preliminary estimates of unique plants new to the system within 10 days after the end of the fiscal quarter, and continue to document and refine those estimates throughout the following quarters.

Related Annual Targets (FY 2003 - FY 2001)

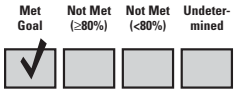
FY 2003
- 6,200 energy-intensive U.S. plants that will apply EERE technologies and services achieving up to a 15 percent improvement in energy productivity per plant (ER1-2b).
  Assessment: MET

FY 2002 • There were no related annual targets in FY 2002.

FY 2001 • Continued support for Industrial Assessment Centers operating at 26 participating universities that conducted approximately 650 combined energy, waste and productivity assessments.
Assessment: MET

Associated Annual Target for FY 2004

EE GG 4.60.2 Commercialize four new technologies in partnership with the most energy intensive industries.



Commentary: Six new technologies were commercialized. These technological developments included some that were specific to the energy-intensive steel, chemical, and metalcasting industries, and one whose application will be more general across industries.

Supporting Documentation: Data on these commercialized technologies was collected by Pacific Northwest National Laboratory, and reported to ITP in a monthly report.

Related Annual Targets (FY 2003 - FY 2001)

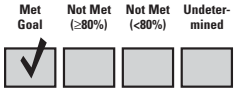
FY 2003 • Commercialize four new energy efficient technologies in partnership with the most energy intensive industries (ER1-2a).
Assessment: MET

FY 2002 • Commercialize ten new energy efficient technologies in partnership with the most energy intensive industries.
Assessment: MET

FY 2001 • In FY 2001, commercialized ten new technologies from both the nine vision industries as well as the crosscutting programs.
Assessment: MET

Associated Annual Target for FY 2004

EE GG 4.60.3 Contribute proportionately to EERE's corporate goal of reducing corporate and program uncosteds to a range of 20-25% by reducing program annual uncosteds by 10% in 2004 relative to the program uncosted baseline (2003) until the target range is met.



Commentary: The Industrial Technologies Program exceeded its annual target of a ten percent reduction in programs adjusted obligated but uncosted. At the end of the year, the adjusted obligated uncosted (excluding congressionally directed earmarks and Formula Grant activities) was $40,741K (target was $70,491K). Reducing uncosted leads to program activities occurring sooner leading to greater savings from the program.

Supporting Documentation: Uncosted data is verified by MARS. EERE Management Action Plan FY 05.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Additional Targets from 2003-2001

FY 2003

- Turn over 25 percent of projects in the R&D portfolio (ER1-2c).
  Assessment: MET

- Help industry save more than 180 trillion Btu of energy worth at least $720 million (Assumes industrial average energy prices of $4.00 per million Btu) (ER1-2d).
  Assessment: MET

FY 2002

- Assist industry in saving more than 265 trillion Btu of energy, worth more than $1.6 billion.
  Assessment: MET

- Complete two showcase demonstrations of advanced energy efficient technologies at industry sites.
  Assessment: MET

- Complete 20 new Allied Partnerships (formal agreements between industry and DOE's Industrial Program) with energy intensive companies, trade organizations and other groups.
  Assessment: MET

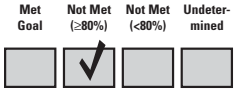
- Continue support for Industrial Assessment Centers operating at 26 participating universities that will conduct over 600 combined energy, waste, and productivity assessment days of service to manufacturing clients.
  Assessment: MET

FY 2001

- In FY 2001, Office of Industrial Technologies (OIT) helped industry save an estimated 262 trillion Btu of energy worth more than $1.6 billion.
  Assessment: MET

PROGRAM GOAL:

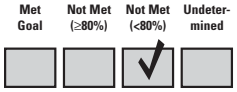
OETD GG 4.12 ELECTRIC TRANSMISSION AND DISTRIBUTION: Improve energy security by developing technologies that foster a diverse supply of reliable, affordable and environmentally sound energy by providing for reliable delivery of energy, guarding against energy emergencies, exploring advanced technologies that make a fundamental improvement in our mix of energy options, and improving energy efficiency.



Commentary: The August 14, 2003 multi-region blackout left over 50 million Americans in the dark without electricity and adequate safety, and cost the nation billions of dollars. To reduce or eliminate this kind of emergency in the future, the Office of Electrical Transmission and Distribution was created to lead a national effort to modernize and expand America's electrical delivery system. Although just beginning its critical mission, the Office has already had a direct impact on the Department's General Goal 4 to provide for national energy security.

Associated Annual Target for FY 2004

OETD GG 4.12.1 Complete testing of 10 MVA superconducting transformer in operation on the Wisconsin Electric Power Company grid.



Commentary: A team comprised by Waukesha Electric Systems (the leading US transformer manufacturer), Intermagnetics General Co. (an established manufacturer of superconducting coils), Oak Ridge National laboratory and Rochester Gas & Electric utility designed, constructed, and tested the world's largest (10 MVA) superconducting power transformer successfully at twice the rated current expected in operation on the electric grid and completed a series of low voltage tests. However, the superconducting coils in the transformer were damaged by the occurrence of electrical short circuits during operation at high voltage and testing was concluded without meeting the performance target.

Supporting Documentation: "Positive Accomplishments for 5/10 MVA Transformer Project Report" submitted by Waukesha Electric systems, SuperPower, Inc., a subsidiary of Intermagnetics Corporation in May 2004 and "High Temperature Superconducting Power Transformer Chronicle Report" issued by Waukesha Electric Systems, SuperPower, Inc., and Oak Ridge National Laboratory (2004) which has been marked as "Competition Sensitive, SuperPower Proprietary & Confidential Information, Not for Distribution or Disclosure Outside the Government."

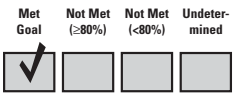
Plan of Action: A draft report from the project, "High Temperature Superconductivity Power Transformer Chronicle," has been delivered which details the design, manufacture and testing of the unit. The next step is to perform a "root cause analysis" of the damaged coils by breaking the coils open and observing where and why the short circuits occurred. The team remains committed to transformer development and intends future accomplishment of the missed milestone - after understanding the root causes of the failure and successfully completing small scale, high voltage tests that demonstrate the problem has been solved. A plan and schedule for future transformer development and achieving the missed milestone will then be developed.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

OETD GG 4.12.2 Test and evaluate the performance of a 500kW/750kWh sodium sulfur battery (first in U.S.) installed at an American Electric Power site for six months to determine technical and economic performance.



Commentary: This demo was intended to validate the sodium sulfur (NAS) battery operating characteristics in a real world application in the U.S., gain familiarity with the technology, and develop needed economic models for its use. The demo involved two NAS battery modules, each rated at 50 kW, capable of supplying 375 kWh of energy, installed at an AEP site and monitored for 18 months. After validating data collection methods during the first quarter of FY 04, three operating regimes were explored to optimize round trip efficiencies. Operating the system at 70 kW for 10 hours of peak shaving was found to maximize economic benefits compared to the other regimes at 100 kW/4 hours and 100 kW/6 hours. In addition to peak electricity use shaving (reduction), the system eliminated all of the 378 power quality events that occurred during the 18 month test period. Results are documented in a report entitled "AEP Field Demonstrations Comparisons with Emphasis on NaS."

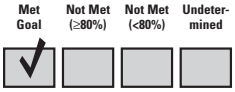
Supporting Documentation: Report entitled "AEP Field Demonstrations Comparisons with Emphasis on NaS" to be presented at the Annual Energy Storage Peer Review, Washington, DC, Nov. 10-11. A separate SAND report will be issued on the demonstration by Sandia National Laboratory.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

OETD GG 4.12.3 Install and operate a prototype wide area measurement system in the Nation's Eastern Interconnection with 12 time-synchronized monitoring instruments that feed data into two data archiving and analysis locations.



Commentary: In the Transmission Reliability Eastern Interconnection Phasor Project (EIPP) project, DOE led a working group of utilities that installed and operated a prototype wide area measurement system in the Eastern Interconnection of the United States that includes 12 time-synchronized monitoring instruments that feed data into two data archiving and analysis locations. The EIPP responds to the August 14 Blackout Final Report that calls for the adoption of better real time tools to monitor and control the power system. In this project, DOE is leading a working group that includes transmission utilities, ISOs, RTOs, NERC and other electricity stakeholders to accelerate the creation of a real time measurement network in the eastern grid. This network will measure power system parameters in real time, archive the data in a network of data concentrators, analyze the data, and provide analysis of these data in visual form to all utilities, ISOs and RTOs that are participating in the project. This information will allow utilities to view the status of the grid both within and beyond their own system, and will also allow faster operation of the "state estimator" that assess the health of the grid and its capability to withstand outage contingencies.

Supporting Documentation: The September 2004 progress report, entitled "Contributions by the Pacific Northwest National Laboratory (PNNL) to the U.S. Department of Energy (DOE) Transmission Reliability Program" as part of the Consortium for Electric Reliability Technology Solutions (CERTS).

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Additional Targets from 2003-2001

FY 2003

- Increase the capability to reproducibly fabricate a 10-meter length of Second Generation High Temperature Superconductivity (HTS) wire to carry 50 amps of electricity and 1-meter lengths that carry 100 amps from a 40-amp base (ER1-5d).
  Assessment: MET

- Support the field test of a 100kW lithium battery system for 700 hrs at a utility site (ER1-5e).
  Assessment: MET

FY 2002

- Complete initial testing of Detroit superconducting transmission cable and document operational costs and reliability.
  Assessment: Not Met

- Convene and support the principals to enable IEEE to publish the draft P1547 Standard for Distributed Resources Interconnected with Electric Power Systems.
  Assessment: MET

- Compete 300 hours of testing of the advanced bromine battery system in partnership with Detroit Edison.
  Assessment: MET

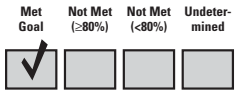
FY 2001

- Installed first-of-a-kind superconducting electrical transmission cables to replace existing delivery to an urban substation serving 14,000 customers in Detroit, Michigan and begin testing operation and reliability.
  Assessment: MET

- Document 6,000 hours (100% load) of operation of the first successful HTS' power delivery system to power an industrial use.
  Assessment: Exceeded Goal

PROGRAM GOAL:

PMA GG 4.51

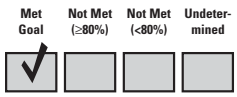


SOUTHEASTERN POWER ADMINISTRATION: Ensure Federal hydropower is marketed and delivered while passing the North American Electric Reliability Council's (NERC) Control Compliance Ratings, meeting planned repayment targets, and achieving a recordable accident frequency rate at or below our safety performance standard.

Commentary: Southeastern met the FY 04 program goal by exceeding NERC compliance ratings, meeting planned repayments to the Treasury, and exceeding safety goals. Southeastern continues to deliver Federal hydropower to its customers in an efficient, safe, and timely manner.

Associated Annual Target for FY 2004

PMA GG 4.51.1



Attain acceptable North American Electric Reliability Council (NERC) ratings for the following Control Performance Standards (CPS) measuring the balance between power generation and load: 1) CPS 1 which measures the generation/load balance and support system frequency on one minute intervals (rating >100); 2) CPS 2 which limits any imbalance magnitude to acceptable levels (rating >90).

Commentary: Due to the outstanding performance of Southeastern's operations center employees, Southeastern achieved a "pass" on all six monthly standards for CPS 1 and CPS2 which contributed to the reliable delivery of Federal hydropower to its customers. The Annual averages for CPS 1 and 2 are 174.49 and 98.94 respectively.

Supporting Documentation: Records submitted to regional and national electric reliability councils.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Ensure that the power system control area operated by the Southeastern Power Administration receives, Control Compliance Ratings of "Pass" on both of the North American Electric Reliability Council's reliability performance standards in every month (ER9-3a).
  Assessment: MET

FY 2002

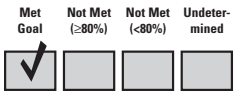
- Southeastern Power Administration will receive monthly Control Performance Ratings of "Pass" using the North American Electric Reliability Council performance standards.
  Assessment: MET

FY 2001

- Reliability performance for the Southeastern Power Administration was on-target.
  Assessment: MET

Associated Annual Target for FY 2004

PMA GG 4.51.2 Based on actual conditions, plant operations, and expenses through the 1st, 2nd, 3rd, 4th quarters of FY 2004, the Southeastern Power Administration forecasts it will meet 95% of its planned annual repayment of Federal investment by year's end.



Commentary: Results indicate that cumulative sales of electricity at the end of the 4th quarter of FY 2004 will allow Southeastern to meet its scheduled amount of repayment. The repayment requirement is based on historic average water conditions. The FY 2004 estimated repayment was greater than the amount scheduled due to an increase in tropical storm induced rainfall. Southeastern exceeded its planned annual repayment to the Treasury to repay taxpayers for their investment in Federal hydropower facilities.

Supporting Documentation: Audited accounting records and formal repayment studies.

Related Annual Targets (FY 2003 - FY 2001)

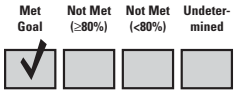
FY 2003
- Southeastern Power Administration will meet planned repayment of principal on power investment (ER9-3b).
  Assessment: MET

FY 2002
- Southeastern Power Administration will meet planned repayment of principal on power investment.
  Assessment: Not Met

FY 2001
- Meet Principal Repayment goal for Southeastern Power Administration.
  Assessment: Below Expectations

Associated Annual Target for FY 2004

PMA GG 4.51.3 Southeastern Power Administration forecasts it will meet the required repayment of Federal power investment within the required repayment period.



Commentary: Southeastern met its required repayment obligations repaying the taxpayers for their investment in Federal hydropower facilities. In FY 2004, the estimated year end repayment will meet the planned amount ($15.6 million). Planned repayments are calculated using average water conditions.

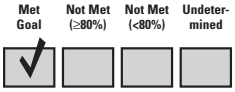
Supporting Documentation: Audited accounting records and formal repayment studies.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

PMA GG 4.51.4 Achieve a recordable accident frequency rate for recordable injuries per 200,000 hours worked of not greater than 3.3, or the Bureau of Labor Statistics' (BLS) industry rate, whichever is lower.



Commentary: Southeastern continues to meet safety requirements. Zero accidents were recorded within the fourth quarter, FY 2004. Southeastern met its annual reportable accident goal thereby providing a safe environment for its employees.

Supporting Documentation: Quarterly report submitted by the Human Resources and Administration Division to Department of Energy.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Southeastern Power Administration will achieve a safety performance of a 3.3 recordable accident frequency rate for recordable injuries per 200,000 hours worked or the Bureau of Labor Statistics' industry rate, whichever is lower. (Safety performance is measured using the recordable accident frequency rate [RAFR] for recordable injuries per 200,000 hours worked) (ER9-3c).
  Assessment: MET

FY 2002

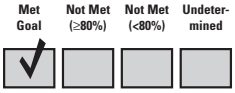
- Southeastern Power Administration will achieve a safety performance of a 3.3 recordable accident frequency rate for recordable injuries per 200,000 hours worked or the Bureau of Labor Statistics' industry rate, whichever is lower.
  Assessment: MET

FY 2001

- Meet recordable accident frequency rate for Southeastern Power Administration.
  Assessment: MET

PROGRAM GOAL:

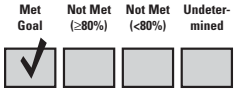
PMA GG 4.52 *SOUTHWESTERN POWER ADMINISTRATION*: Ensure Federal hydropower is marketed and delivered while complying with industry reliability standards, meeting planned and required repayment, and achieving a recordable accident frequency rate at or below our safety performance standard.



Commentary: Southwestern met the FY 04 program goal by exceeding NERC compliance ratings, meeting planned and required repayments to the Treasury, and exceeding safety goals. Southwestern continues to deliver Federal hydropower to its customers in an efficient, safe, and timely manner.

Associated Annual Target for FY 2004

PMA GG 4.52.1 Attain average North American Electric Reliability Council's (NERC) compliance ratings of 100 or higher for Control Performance Standards 1, and 90 or above for Control Performance Standard 2.



Commentary: For this year Southwestern achieved 24 "Pass" ratings. Southwestern exceeded the NERC standards of balancing generation to load with ratings of 183.82 for CPS-1 and 99.63 for CPS-2. Fourth quarter results are consistent with industry and reflect Southwestern's efforts to operate the power system efficiently with less wear on the equipment, while maintaining reliability. Southwestern uses the NERC data to gauge how well the power system is performing and to determine if operation adjustments need to be made. Southwestern's performance is important to the overall reliability of the Eastern Interconnection electrical operations.

Supporting Documentation: Monthly Resources Subcommittee CPS Reports (www.NERC.com/~filez/cpc.html).

Related Annual Targets (FY 2003 - FY 2001)

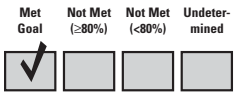
FY 2003
- Ensure that the power system control area operated by the Southwestern Power Administration receives, Control Compliance Ratings of "Pass" on both of the North American Electric Reliability Council's reliability performance standards in every month (ER9-2a).
  Assessment: MET

FY 2002
- Southwestern Power Administration will receive monthly Control Performance Ratings of "Pass" using the North American Electric Reliability Council performance standards.
  Assessment: MET

FY 2001
- Reliability Performance for Southwestern Power Administration was on-target.
  Assessment: MET

Associated Annual Target for FY 2004

PMA GG 4.52.2 Meet planned annual repayment of principal on Federal power investment.



Commentary: Southwestern planned to repay a cumulative $27.4 million on the Federal investment in FY 2004. The estimated year end repayment was $29.2 million. Planned repayment is based on annual average water conditions. In FY 2004, Southwestern incurred above average water conditions and regional temperature lower than normal. Consequently, Southwestern was able to repay to the American taxpayer an estimated 6% more than planned. Southwestern has repaid a cumulative estimated $565 million or 49% of the principal.

Supporting Documentation: Power Repayment Studies, Annual Report, Audited Financial Statements.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003
- Southwestern Power Administration will meet planned repayment of principal on power investment (ER9-2b).
  Assessment: Met above 80%, but below 100% of the Target

FY 2002
- Southwestern Power Administration will meet planned repayment of principal on power investment.
  Assessment: MET

FY 2001
- Planned Principal Repayment (ER9).
  Assessment: Nearly Met

Associated Annual Target for FY 2004

PMA GG 4.52.3 Repay the Federal investment within the required repayment period.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
☑	☐	☐	☐

Commentary: Southwestern met all its required repayment on the power investment within the required repayment period. Southwestern repaid an estimated $1.3 million of the required repayment due on the Federal investment in FY 2004.

Supporting Documentation: Power Repayment Studies; Annual Report, Audited Financial Statements.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

PMA GG 4.52.4 Achieve a System Average Interruption Duration Index (SAIDI) of not more than 150 minutes of total preventable outages per year.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
☑	☐	☐	☐

Commentary: Southwestern had less than 150 minutes of total preventable outages for the fourth quarter. Southwestern did not incur any preventable outages (outages over which Southwestern has sole control) in FY 2004 due to its constant vigil of maintaining equipment and rights-of-way, and excellent operational coordination of the power system.

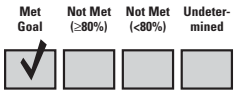
Supporting Documentation: Southwest Power Pool Outages Database, Southwestern's Official Supervisory Control and Data Acquisition (SCADA) Operational Logs.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

PMA GG 4.52.5 Achieve a recordable accident frequency rate (RAFR) for recordable injuries per 200,000 hours worked of not greater than 5.3.



Commentary: Southwestern achieved an RAFR for recordable injuries per 200,000 hours worked less than 5.3 and below the industry average. No recordable accidents occurred in the fourth quarter. Southwestern incurred four recordable accidents in FY 2004. Based on this number, Southwestern's RAFR will be 2.6 for the year with cumulative estimated hours worked of 309,122. This is well below the industry average. Since FY 2002, Southwestern has taken action to improve its safety record. This has saved on costs and improved productivity in maintaining a reliable power system.

Supporting Documentation: Medical Reports, Defense Civilian Pay System Reporting on Labor Hours, Bureau of Labor Statistics Report, Safety and Health Administration Calculation and Criteria, Southwestern's Official Safety (Incident) Report.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Southwestern Power Administration will achieve a safety performance of a 3.3 RAFR for recordable injuries per 200,000 hours worked or the Bureau of Labor Statistics' industry rate, whichever is lower. (Safety performance is measured using the recordable accident frequency rate [RAFR] for recordable injuries per 200,000 hours worked) (ER9-2c).
  Assessment: MET

FY 2002

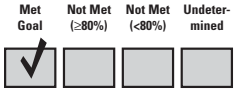
- Southwestern Power Administration will achieve a safety performance of a 3.3 RAFR for recordable injuries per 200,000 hours worked or the Bureau of Labor Statistics' industry rate, whichever is lower.
  Assessment: Not Met

FY 2001

- RAFR for the Southwestern Power Administration was on-target.
  Assessment: MET

PROGRAM GOAL:

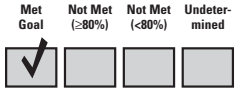
PMA GG 4.53 *WESTERN AREA POWER ADMINISTRATION*: Ensure Federal hydropower is marketed and delivered while passing the North American Electric Reliability Council's (NERC) Control Compliance Ratings, meeting planned repayment targets, and achieving a recordable accident frequency rate at or below our safety performance standard.



Commentary: Western met the FY04 program goal by exceeding NERC compliance ratings, meeting planned repayments to the Treasury, and exceeding safety goals. Western continues to deliver Federal hydropower to its customers in an efficient, safe, and timely manner.

Associated Annual Target for FY 2004

PMA GG 4.53.1



System Reliability Performance: Attain acceptable North American Electric Reliability Council (NERC) ratings for the following NERC Control Performance Standards (CPS) measuring the balance between power generation and load: 1) CPS1 which measures generation/load balance and support system frequency on one minute intervals (rating>100); and 2) CPS2 which limits any imbalance magnitude to acceptable levels (rating>90).

Commentary: Target Exceeded. All Western control areas "passed" for all months in FY 2004, exceeding the minimum requirements. Western's FY 2004 averages are: CPS1 - 184.19, CPS2 - 98.25. This measure is used to gauge power system performance using the instantaneous defference between load and generation. A control compliance rating of "pass" is achieved when a power system receives a CPS1 performance level of 100% minimum and a CPS2 performance level of 90% minimum.

Supporting Documentation: Regional monthly compliance results are published on the NERC website (http://www.nerc.com/~filez/cpc.html). The data is captured by a computer routine in each of Western's control center's Energy Management System (EMS) computers.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Ensure that the power system control area operated by the Western Area Power Administration receives, Control Compliance Ratings of "Pass" on both of the NERC's reliability performance standards in every month (ER9-4a).
  Assessment: MET

FY 2002

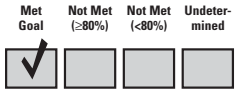
- Western Area Power Administration will receive monthly Control Performance Ratings of "Pass" using the NERC performance standards.
  Assessment: MET

FY 2001

- Meet the Reliability Performance goal for Western Area Power Administration.
  Assessment: MET

Associated Annual Target for FY 2004

PMA GG 4.53.2



System Reliability Performance: Accountable customer and/or transmission element outages will not exceed the average number of outages for the past five years.

Commentary: Target Exceeded. Western minimized the number of outages across its network contributing to more reliable deliver of Federal hydropower to its customers. Outages by month are as follows: October - 1; November - 5; December - 0; January - 5; February - 1; March - 1; April - 3; May - 1; June - 1; July - 1; August - 1; September - 1.

Supporting Documentation: Performance standard and criteria for determining accountability developed internally as part of Western Bonus Goal program (self-imposed reporting standard).

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

PMA GG 4.53.3 Repayment of Federal Power Investment Performance: Meet planned annual repayment of principal on Federal power investments.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
☑	☐	☐	☐

Commentary: Western exceeded its planned repayment to the treasury repaying the taxpayers for their investment in Federal hydropower facilities. The measure is the actual annual Federal principal repayment expressed as a percent of planned annual principal repayment. Collective data for the six major Western projects through the 4th quarter of FY 2004 indicates that the total actual repayment for FY 2004 (approximately $38.2 million) is 120% of planned repayment (approximately $31.9 million) - exceeding the measure standard by 25%.

Supporting Documentation: Project power repayment studies.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003
- Western Area Power Administration will meet planned repayment of principal on power investment (ER9-4b).
  Assessment: MET

FY 2002
- Western Area Power Administration will meet planned repayment of principal on power investment.
  Assessment: MET

FY 2001
- Principal Repayment: Western Area Power Administration.
  Assessment: Below Expectations

Associated Annual Target for FY 2004

PMA GG 4.53.4 Recordable Accident Frequency Rate Performance: Achieve a recordable accident frequency rate for recordable injuries per 200,000 hours worked of not greater than 3.3, or the latest published Bureau of Labor Statistics' industry rate, whichever is lower.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
☑	☐	☐	☐

Commentary: Target Exceeded. Western's FY 2004 rate of 1.6 is below the annual targeted frequency rate of 3.3 thereby providing a safe working environment for Western's employees. This measure is calculated by multiplying the number of Western's recordable injuries (20) by 200,000 hours and dividing that number by the total hours worked (2,441,467). Western's FY 2004 rate of 1.6 is below the annual targeted frequency rate of 3.3.

Supporting Documentation: Data collected and calculated per DOE Order 231.A. Reported on DOE Form 5484.4 and WAPA Form 5484.1.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Western Area Power Administration will achieve a safety performance of a 3.3 recordable accident frequency rate for recordable injuries per 200,000 hours worked or the Bureau of Labor Statistics' industry rate, whichever is lower. (Safety performance is measured using the recordable accident frequency rate [RAFR] for recordable injuries per 200,000 hours worked) (ER9-4c).
  Assessment: MET

FY 2002

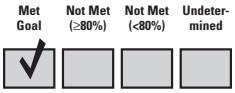
- Western Area Power Administration will achieve a safety performance of a 3.3 RAFR for recordable injuries per 200,000 hours worked or the Bureau of Labor Statistics' industry rate, whichever is lower.
  Assessment: MET

FY 2001

- Meet the RAFR for Western Area Power Administration.
  Assessment: MET

PROGRAM GOAL:

PMA GG 4.54

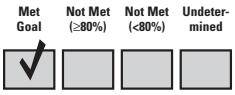


BONNEVILLE POWER ADMINISTRATION: Ensure Federal hydropower is marketed and delivered while passing the North American Electric Reliability Council's (NERC) Control Compliance Ratings, meeting planned repayment targets, and achieving a recordable accident frequency rate at or below our safety performance standard.

Commentary: Bonneville met the FY04 program goal by exceeding NERC compliance ratings, meeting planned repayments to the Treasury, and exceeding safety goals. Bonneville continues to deliver Federal hydropower to its customers in an efficient, safe, and timely manner.

Associated Annual Target for FY 2004

PMA GG 4.54.1



System Reliability Performance: Attain average North American Electric Reliability Council NERC compliance ratings for the following NERC Control Performance Standards (CPS) measuring the balance between power generation and load, including support for system frequency: (1) CPS1, which measures generation/load balance on one-minute intervals (rating =100); and (2) CPS2, which limits any imbalance magnitude to acceptable levels (rating =90).

Commentary: The average CPS1 score for FY 2004 was 198.5; the average CPS2 score for FY 2004 was 94.3. BPA is meeting these standards using its two existing Automatic Generation Control (AGC) systems. The backup AGC has been modified during the previous quarter to include a variable frequency bias to more accurately track how our Control Area responds to frequency deviation. We are monitoring the two systems continuously to insure compliance with standards without over-control. Meeting this performance target demonstrates Bonneville's continued focus on its core mission of delivering power reliably.

Supporting Documentation: Fourth Quarter FY 2004 Findings Memo, dated October 12, 2004.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Ensure that the power system control area operated by the Bonneville Power Administration receives, Control Compliance Ratings of "Pass" on both of the North American Electric Reliability Council's reliability performance standards in every month (ER9-1a).
  Assessment: MET

FY 2002

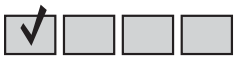
- Bonneville Power Administration will receive monthly Control Performance Ratings of "Pass" using the North American Electric Reliability Council performance standards.
  Assessment: MET

FY 2001

- Reliability Performance for Bonneville Power Administration was on-target.
  Assessment: MET

Associated Annual Target for FY 2004

PMA GG 4.54.2 Repayment of Federal Power Investment Performance: Meet planned annual repayment of principal on Federal power investments.



Commentary: Target met. Bonneville made a FY 2004 Treasury principal amortization payment of $592 million, which included $246 million of planned principal amortization and $346 million of advanced amortization. Cumulative advanced amortization at the end of FY 2004 totaled $1,146 million. Meeting this performance target demonstrates Bonneville's commitment to meeting its obligations to U.S. taxpayers. For the 21st straight year Bonneville has made its annual Treasury payment in full and on time.

Supporting Documentation: Fourth Quarter FY 2004 Findings Memo, dated October 12, 2004.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Bonneville Power Administration will meet planned repayment of principal on power investment (ER9-1b).
  Assessment: MET

FY 2002

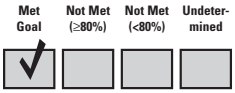
- Bonneville Power Administration will meet planned repayment of principal on power investment.
  Assessment: MET

FY 2001

- Reliability Performance for Bonneville Power Administration was on target.
  Assessment: MET

Associated Annual Target for FY 2004

PMA GG 4.54.3 Recordable Accident Frequency Rate Performance: Achieve a safety performance of a 3.3 recordable accident frequency rate (RAFR) for recordable injuries per 200,000 hours worked or the Bureau of Labor Statistics' industry rate, whichever is lower.



Commentary: Bonneville has achieved an accident frequency rate well below the target of 3.3. Bonneville continues to strive for reduced injuries through a proactive safety program. Bonneville has incorporated a safety element in its managers' and supervisors' performance plans for FY 2005. Meeting this performance target demonstrates BPA's commitment to maintaining a safe work environment.

Supporting Documentation: Fourth Quarter FY 2004 Findings Memo, dated October 12, 2004.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Bonneville Power Administration will achieve a safety performance of a 3.3 recordable accident frequency rate for recordable injuries per 200,000 hours worked or the Bureau of Labor Statistics' industry rate, whichever is lower (ER9-1c).
  Assessment: MET

FY 2002

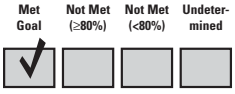
- Bonneville Power Administration will achieve a safety performance of a 3.3 recordable accident frequency rate for recordable injuries per 200,000 hours worked or the Bureau of Labor Statistics' industry rate, whichever is lower.
  Assessment: MET

FY 2001

- Reliability Performance for Bonneville Power Administration was on-target.
  Assessment: MET

PROGRAM GOAL:

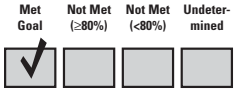
EIA GG 4.61 *ENERGY INFORMATION ADMINISTRATION (EIA)*: EIA's information program is relevant, reliable and consistent with changing industry structures, and EIA's products are accurate and timely.



Commentary: The Energy Information Administration met the FY04 program goal by exceeding targets for dissemination of relevant, reliable, and unbiased energy related information to the Congress, government officials and the general public. Informational briefings and internet related communications methodologies continue to be pursued in order to make EIA information available to the widest possible audience in a timely manner.

Associated Annual Target for FY 2004

EIA GG 4.61.1 Conduct informational briefings for high-level energy policymakers in the Administration and Congress to provide timely information and analysis on topical energy issues and situations.



Commentary: This target was met. EIA's administrator testified twice this quarter, before the House Government Reform Subcommittee on Energy Policy, Natural Resources and Regulatory Affairs on July 7, and before the House Subcommittee on Energy and Air Quality, Committee on Energy and Commerce on July 15. In addition, we had 8 other requests for information and assistance. By counting the number of briefings and reports, EIA is assessing our impact on Congress and other policy makers. Our measure of satisfaction for Congress is that we are continually invited back to testify and that specific service reports are requested.

Supporting Documentation: Text of our Congressional briefings is at www.eia.doe.gov/neic/speeches/speech1.html. Other contacts are documented in EIA's weekly reports to DOE and in reports from EIA offices.

Related Annual Targets (FY 2003 - FY 2001)

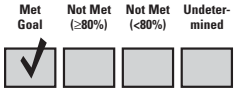
FY 2003
- Conduct informational briefings for high-level energy policymakers in the Administration and Congress to provide timely information and analysis on topical energy issues and situations (ER8-1a).
  Assessment: MET

FY 2002
- Maintain and improve web-based networks for the Energy Resources organizations to ensure wide distribution of information about Energy Resources programs, such that the average number of unique monthly users of Energy Resources Websites will continue to grow at least 20 percent per year through 2005 (from a baseline of about 71,000 per month in 1997).
  Assessment: MET

FY 2001
- There were no related annual targets in FY 2001.

Associated Annual Target for FY 2004

EIA GG 4.61.2 Increase the number of unique monthly users of Energy Information Administration's (EIA) Web site by at least 20 percent per year through 2005 from a FY 1997 baseline of 37,000 monthly users sessions.



Commentary: This target was met. EIA's website had 3.5 million user sessions this past quarter. Some of our more popular sites were our Country Analysis Briefs (almost 600,00 visits) and our On-Highway Diesel Prices (over 240,000 visits.) This gives a running 12-month total of 13.8 million, up 26.7% from 10.8 million from a year ago. These are not 'unique' users, since we can not track individual users. EIA's website is our primary means of disseminating detailed data and analysis, and users constitute a wide range of both energy industry experts and the general public. Although this is largely driven by external events, EIA closely monitors the number of users as an indicator of its information dissemination effectiveness.

Supporting Documentation: EIA uses the commercial software product Webtrends to track and analyze our website usage. Summaries and product-specific usage number are posted on our internal intranet.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Increase the number of unique monthly users of EIA's Website by at least 20 percent per year through 2005 (from a baseline of about 71,000 per month in 1997) (ER8-1b).
  Assessment: MET

FY 2002

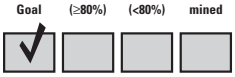
- Maintain and improve web-based networks for the Energy Resources organizations to ensure wide distribution of information about Energy Resources programs, such that the average number of unique monthly users of Energy Resources Websites will continue to grow at least 20% per year through 2005 (from a baseline of about 71,000 per month in 1997).
  Assessment: MET

FY 2001

- Achieve a growth rate of at least 20% per year in the average number of unique monthly users of EIA's website (from about 71,000 per month in 1997). For FY 2001, monthly Internet user sessions average in excess of 602,500 which represent an 87.0% increase from FY 2000.
  Assessment: MET

Associated Annual Target for FY 2004

EIA GG 4.61.3 Increase the number of citations of EIA in major media outlets by at least an average of 10 percent per year.



Commentary: EIA exceeded our target with 76 citations in the top five newspapers during the last three months. The New York Times had 12, the Washington Post had 8, Los Angeles Times had 18, Wall Street Journal had 24, and USA Today had 14. This gives a total of 259 for the fiscal year, which represents an average growth rate of 26.8% relative to the baseline. Examples of stories this past quarter which were reprinted in DOE Newsclips included Oil Explorers Searching Ever More Remote Areas which referenced EIA's long-term price projections (New York Times, 9/9, page c1), and the track of hurricane Ivan's path and major refineries (USA Today, 9/17, pg b2) and several articles on rising prices. The coverage of EIA in the 5 largest newspapers is a measure of EIA as a "wholesale" provider of information. Although this is largely driven by external events such as high prices or shortages, our continued coverage by the media is an indicator of the relevance and importance of our information.

Supporting Documentation: The search is conducted in Factiva by the DOE library and a paper listing of article titles by date by newspaper is provided to EIA.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Increase the number of citations of EIA in major media outlets by at least 10 percent per year through 2005 (from a baseline of 73 citations in major media outlets in 1999) (ER8-1c).
  Assessment: MET

FY 2002

- There were no related annual targets in FY 2002.

FY 2001

- There were no related annual targets in FY 2001.

Additional Annual Targets from 2002-2001 Assigned to Goal 4: Energy Security

FY 2002

- Complete two, and based on the technical merits of the grants, approve the continuation of 12 research and curriculum development awards funded by three-year Advanced Nuclear Medicine Initiative grants to universities, hospitals and research institutions.
  Assessment: Mixed Results

- Complete upgrades to the Fast Flux Test Facility (FFTF) fuel handling control systems and achieve readiness to initiate their validation in FY 2003.
  Assessment: MET

- Negotiate implementation of a revised Hanford Federal Facility Agreement and Consent Order milestones for FFTF deactivation.
  Assessment: MET

- Meet the milestones for legacy waste cleanup at Test Reactor Area (TRA) in the Voluntary Consent Order between the State of Idaho and DOE, and efficiently manage resources to limit growth in the backlog of maintenance to no more than 10%.
  Assessment: MET

- Develop conceptual design of a Stirling Radioisotope Power System suitable for space exploration missions.
  Assessment: MET

- Complete assessment of special purpose fission technology options required to power advanced spacecraft to the outer planets and on the surface of Mars.
  Assessment: MET

- Supply quality stable and radioactive isotopes for industrial, research, and medical applications that continue to meet customer specifications no less than 97% of the time, and maintain 95% on-time deliveries.
  Assessment: MET

FY 2001

- Completed negotiations with industrial teams selected to implement the Early Entrance Co-production Plant (EECP) projects, and initiated Phase 1 of the three-phase activity.
  Assessment: MET

- Completed laboratory evaluation of the initial set of hydrogen separation membranes.
  Assessment: MET

- Began laboratory scale test operations of a novel syngas ceramic membrane reactor to reduce gas-to-liquid fuel conversion costs, and initiated construction of first stage scale-up of the reactor.
  Assessment: MET

- Provided five grants under the Advanced Nuclear Medicine Initiative.
  Assessment: MET

- Completed the conversion and disposition of 100% of the Fermi reactor sodium coolant in storage at Argonne National Laboratory-West (ANL-W).
  Assessment: MET

- Completed draining the ERB-II primary system and process 100% of all EBR-II sodium in compliance with the Idaho National Engineering and Environment Laboratory (INEEL) Site Treatment Plan.
  Assessment: MET

- Treated a minimum of 0.5 metric tons of heavy metals (MTHM) of EBR-II spent nuclear fuel).
  Assessment: MET

- Established new international agreement on advanced accelerator applications programs with at least one country that significantly leverages financial and technical resources, to the mutual benefit of both countries, particularly in areas such as safety, fuels and materials development, and facility operations.
  Assessment: MET

- Competitively selected system integration contractor to develop a flight qualified Stirling Radioisotope Power System for future space exploration missions.
  Assessment: Nearly Met Goal

- Completed an initial assessment of special purpose fission technologies that are focused on concepts and technologies for space applications.
  Assessment: MET

- Supplied quality stable and radioactive isotopes for industrial, research, and medical applications that met customer specifications no less than 97% of the time, and maintained 95% on-time deliveries.
  Assessment: Mixed Results

General Goal 5: Science

Provide world-class scientific research capacity needed to: ensure the success of Department missions in national and energy security; advance the frontiers of knowledge in physical sciences and areas of biological, medical, environmental, and computational sciences; or provide world-class research facilities for the Nation's science enterprise.

Summary of FY 2004 Annual Performance Targets

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
22	0	1	0

FY 2004 Program Costs ($ in Millions): Goal 5 Costs: $3,196
FY 2003 Program Costs ($ in Millions): Goal 5 Costs: $3,068

PROGRAM GOAL:

SC GG 5.19

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
✓			

HIGH ENERGY PHYSICS: Understand the unification of fundamental particles and forces and the mysterious forms of unseen energy and matter that dominate the universe; search for possible new dimensions of space; and investigate the nature of time itself.

Commentary: Progress has been made towards understanding how the universe originated -- its genesis. Experiments at the HEP's accelerators continue to produced evidence for unification: the blending of today's diverse patterns of particles and interactions into a much simpler picture at high particle energies, like those that prevailed in the very early universe.

Associated Annual Target for FY 2004

SC GG 5.19.1

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
✓			

Total integrated amount of data (measured in inverse picobarnes) delivered (within 20% of baseline estimate) to the CDF and D-Zero detectors at the Tevatron. FY04 - Within 20% of a baseline estimate of 240 (192 inverse picobarnes).

Commentary: Annual target met. The cumulative total integrated amount of data in FY04 is 331 inverse picobarns, exceeding the minimum target goal of 192 inverse picobarnes.

Supporting Documentation: http://www-bd.fnal.gov/javaapplications/html_write/tables/IntegratedLumOct.jpg

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

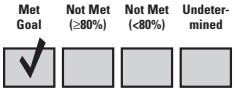
- Deliver integrated luminosity as planned 225 inverse picobarnes (pb-1) to CDF and D-zero at the Tevatron (SC 1-1a).
  Assessment: MET

FY 2002
- Deliver integrated luminosity as planned (80 pb-1) to the CDF and D-Zero at the Tevatron. Begin implementation of the second phase of accelerator upgrades: install four performance improvements to existing systems, and begin design and construction of two new systems.
  Assessment: MET

FY 2001
- There were no related annual targets in FY 2001.

Associated Annual Target for FY 2004

SC GG 5.19.2



Total integrated amount of data (measured in inverse femtobarnes) delivered (within 20% of baseline estimate) to the BABAR detector at the Stanford Linear Accelerator Center (SLAC) B-factory. FY04 - Within 20% of a baseline estimate of 45 (36 inverse femtobarnes).

Commentary: Annual target met. The fourth quarter milestone of 36 was achieved, and the cumulative total integrated amount of data in FY04 is 117 inverse femtobarns, exceeding the minimum annual target goal of 45 inverse femtobarns.

Supporting Documentation: http://www-public.slac.stanford.edu/babar/perfdata.html.

Related Annual Targets (FY 2003 - FY 2001)

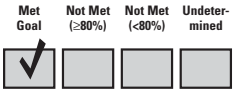
FY 2003
- Increase the total data delivered to BaBar at the SLAC B-factory by delivering 45 fb-1 of total luminosity (SC 1-2a).
  Assessment: Met less than 80% of the Target.

FY 2002
- Increase the total data recorded by BaBar at the Stanford Linear Accelerator Center (SLAC) b-factory by delivering 35 fb-1 of total luminosity.
  Assessment: MET

FY 2001
- Deliver sufficient luminosity (25 fb-1) to double total BaBar data set.
  Assessment: MET

Associated Annual Target for FY 2004

SC GG 5.19.3



Cost-weighted mean percentage variance from established cost and schedule baselines for major construction, upgrade, or equipment procurement projects. (FY04-<10%, <10%)

Commentary: Annual target met. The cost-weighted mean percentage variance from baselines for projects with Total Project Cost (TPC) > $20M in FY2004 is +1% (cost) and -2% (schedule).

Supporting Documentation: Derived from Quarterly Project Reports to SC-2.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

SC GG 5.19.4 Average achieved operation time of the scientific user facilities as a percentage of the total scheduled annual operating time. (FY04->80%)

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
☑	☐	☐	☐

Commentary: Annual target met. The average achieved operation time for HEP scientific user facilities as a percentage of scheduled time in FY04 was 89%.

Supporting Documentation: Derived from letters from Lab Directors or designee. Transitioning to Web-based tracking in 2005.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Maintain and operate HEP forefront scientific facilities such that unscheduled downtime is less than 20 percent of the total scheduled operating time (SC 7-1A2).
  Assessment: MET

FY 2002

- Maintain and operate HEP forefront scientific facilities such that unscheduled downtime is less than 20 percent of the total scheduled operating time.
  Assessment: MET

FY 2001

- HEP scientific facilities were scheduled and operated such that unscheduled downtime averaged about 20% of scheduled operating time.
  Assessment: MET

Additional Targets from 2003-2001

FY 2003

- Complete research and development of two new accelerator systems for the recycler and the Tevatron electron lens (SC 1-1b).
  Assessment: Met less than 80% of the Target

- Add one new Radio Frequency RF station (1-2b).
  Assessment: MET

- Measure CP violation in B mesons with an uncertainty of +/- 0.06 (SC 1-2c).
  Assessment: MET

- Meet the completion targets for the U.S. portion of the Large Hadron Collider (LHC) project - Compact Muon Solenoid (CMS) 78 percent (SC 7-1A1a).
  Assessment: MET

- Meet the completion targets for the U.S. portion of the LHC project – A Toroidal LHC Apparatus (ATLAS) 74 percent (SC 7-1A1b).
  Assessment: MET

- Meet the completion targets for the U.S. portion of the LHC project - Accelerator 86 percent (SC 7-1A1c).
  Assessment: MET

- Demonstrate operation of advanced design accelerating structure for the Next Linear Collider (NLC) at 70 megavolts (MV)/m (SC 7-1B1).
  Assessment: MET

- Conduct, using outside experts, a review (1) of the operations and performance of the HEP - supported accelerator facility at Fermilab (Tevatron) to identify opportunities to optimize efficiency and performance (SC 7-1C).
  Assessment: MET

FY 2002

- Add one new Radio Frequency (RF) station.
  Assessment: MET

- Measure Charge Parity (CP) violation in B mesons with an uncertainty of +/- 0.12.
  Assessment: MET

- Meet the completion targets for the U.S. portion of the LHC project: Compact Muon Solenoid (CMS) - 77%; A Toroidal LHC Apparatus (ATLAS) - 72%; Accelerator - 85%.
  Assessment: Mixed Results

- Complete construction of Linac Test Area at BNL for detailed targeting & capture studies.
  Assessment: MET

- Demonstrate operation of 11.4 gigahertz (GHz) accelerating structure for an NLC at 75 MV/m without significant structural damage.
  Assessment: MET

FY 2001

- Complete first phase of upgrades to enable the Tevatron at Fermilab to run with much higher luminosity. Begin commissioning of phase-one accelerator upgrades.
  Assessment: MET

- Add one new Radio Frequency (RF) station.
  Assessment: MET

- BaBar collaboration published first unambiguous observation of Change Parity (CP) violation in B meson decays with an uncertainty of +/- 0.15.
  Assessment: MET

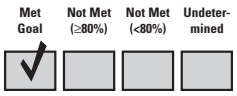
- Met on time and within budget the scheduled U.S. DOE commitments to the international Large Hadron Collider (LHC) project, as reflected in the latest international agreement and corresponding plan. The completion figures for the U.S. portion of the LHC project were: CMS 61%; ATLAS 61%; and Accelerator 68%.
  Assessment: MET

- Demonstrate that 50 MV/m accelerating gradients in 11.4 GHz Next Linear Collider (NLC) accelerating structures are sustainable without significant structure damage.
  Assessment: MET

- At Brookhaven National Laboratory (BNL), successfully complete initial tests of carbon and mercury jet targets for the next generation of proton-driven accelerators.
  Assessment: MET

PROGRAM GOAL:

SC GG 5.20

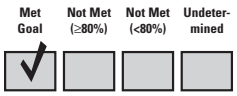


NUCLEAR PHYSICS: Understand the evolution and structure of nuclear matter, from the smallest building blocks, quarks and gluons; to the elements in the universe created by stars; to unique isotopes created in the laboratory that exist at the limits of stability, possessing radically different properties from known matter.

Commentary: Progress has been made towards understanding a possible new state of high energy density matter involving quarks and gluons via moderation of energetic "jets"; the processes in stars that create the elements including the characterization of previously unobserved neutron-rich germanium nuclei; and nuclei with radically different properties such as neutron halos (helium-6).

Associated Annual Target for FY 2004

SC GG 5.20.1



Weighted average number (within 20% of baseline estimate) of billions of events recorded at the Argonne Tandem Linac Accelerator System and Holifield Radioactive Ion Beam Facilities (HRIBF), respectively. FY04 - Baseline estimates are 25 billion & 5.3 billion events respectively.

Commentary: Annual target met - the weighted average exceeded the annual target. Have achieved 41.7 billion events at ATLAS and 3.68 billion events at HRIBF. The annual baseline estimate for ATLAS has been exceeded. HRIBF did not reach its annual goal because of a change in program direction and scientific priority- the nature of experiments approved by the Physics Advisory Committee (PAC) involved rarer type events. This resulted in fewer events recorded than estimated for the annual target. However, the weighted average exceeded the annual target.

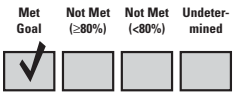
Supporting Documentation: ANL/ATLAS: Official letter from Physics Division Director Dr. Donald Geesaman submitted to NP (SC-90). Supporting email from R. Janssens of the detailed account of events for the 4th Quarter. ORNL/HRIBF: An official letter from Physics Division Director Dr. Glenn Young submitted to NP (SC-90).

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

SC GG 5.20.2



Weighted average number (within 20% of baseline estimate) of billions of events recorded by experiments in Hall A, Hall B, and Hall C, respectively, at the Continuous Electron Beam Accelerator Facility. FY04 - Baselines estimates are 2.4 billion; 7.2 billion, and 2.1 billion events respectively.

Commentary: Annual target met - Have recorded 2.3 billion events in Hall A, 9.2 billion events in Hall B, and 2.6 billion events in Hall C. Operations of all Halls exceeded the annual baseline estimate. The composite average exceeded the annual target.

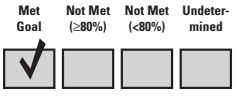
Supporting Documentation: Official letter from Laboratory Director Dr. Christoph Leemann submitted to NP (SC-90) as well as a supporting email.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

SC GG 5.20.3



Weighted average number (within 30% of baseline estimate) of millions of heavy-ion collision events recorded by the PHENIX and STAR detectors, respectively, at the Relativistic Heavy Ion Collider. FY04 - Baseline estimates are 900 million and 40 million respectively.

Commentary: Annual target met - Have recorded 1600 million events in PHENIX and 101 million events in STAR, exceeding the annual target.

Supporting Documentation: Official letter from the Associate Director of High Energy and Nuclear Physics, Dr. Tom Kirk, submitted to NP (SC-90). Supporting email from Dr. Samuel Aronson submitted to NP (SC-90) stating the number of events recorded for STAR. Supporting email from Dr. Timothy Hallman transmitting data generated from STAR's control log. Supporting memo from Dr. Ed O'Brien reporting events recorded for PHENIX. Supporting email from Dr. William Zajc summarizing the events recorded for PHENIX Run 4.

Related Annual Targets (FY 2003 - FY 2001)

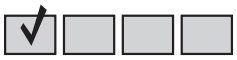
FY 2003
- Collect first data with polarized protons with the Solenoidal Tracker at RHIC (STAR), Pioneering High Energy Nuclear Interacting Experiment (PHENIX), and pp2pp detectors (SC 2-1c).
  Assessment: MET

FY 2002
- Commission polarized protons at the Relativistic Heavy Ion Collider (RHIC) for research programs directed at understanding the spin structure of the proton.
  Assessment: MET

FY 2001
- Produce first heavy-ion collisions at the Relativistic Heavy Ion Collider RHIC (construction completed FY 1999) at 10% of its design luminosity, as planned, with four experimental detectors. Publish first results of heavy-ion collisions.
  Assessment: MET

Associated Annual Target for FY 2004

SC GG 5.20.4 Average achieved operation time of the scientific user facilities as a percentage of the total scheduled annual operating time. (FY04 – >80%)



Commentary: Annual target met – NP user facilities achieved 89.7% reliability of up time/scheduled time that exceeds the annual target, >80%.

Supporting Documentation: Official letters submitted to NP (SC-90) from ANL/ATLAS (D. Geesaman), TJNAF (C. Leemann), BNL (T. Kirk) and ORNL (G. Young) reporting the final FY 2004 operating hours number of hours for the individual user facilities. Supporting worksheets from the laboratory and a composite worksheet generated by the ONP.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003
- Maintain and operate NP scientific user facilities so that the unscheduled operational downtime will be kept to less than 20 percent, on average, of total scheduled operating time (SC 7-2a).
  Assessment: MET

FY 2002
- Maintain and operate NP scientific user facilities so that the unscheduled operational downtime will be kept to less than 20 percent, on average, of total scheduled operating time.
  Assessment: MET

FY 2001
- Maintain and operate NP scientific user facilities so that the unscheduled operational downtime will be kept to less than 15 percent, on average, of total scheduled operating time.
  Assessment: MET

Additional Targets from 2003-2001

FY 2003

- Collect first data with the BLAST detector at MIT/Bates, studying the structure of nucleons and few body nuclei as elements of the electron beam program (SC 2-1a).
  Assessment: MET

- Map out the strange quark contribution to nucleon structure using the G-0 detector, utilizing the high intensity polarized electron beam developed at Thomas Jefferson National Accelerator Facility (TJNAF) as elements of the electron beam program (SC 2-1b).
  Assessment: MET

- Collect the first data from KamLAND, a joint U.S. - Japan experiment measuring neutrinos produced in nuclear reactors (SC 2-3a).
  Assessment: MET

- Complete preparation for tests of the prototype high-energy, high-power gas catcher for the Rare Isotope accelerator (RIA) (SC 2-3b).
  Assessment: MET

- Prepare for tests of prototype targets for the proposed Rare Isotope Accelerator (RIA) (SC 2-3c).
  Assessment: MET

- Complete initial beam emittance tests for Electron Cyclotron Resonance (ECR) ion source for RIA (SC 2-3d).
  Assessment: MET

- Complete tests for the development of the intermediate energy super-conducting Radio Frequency (RF) cavities for the RIA (SC 2-3e).
  Assessment: MET

- Upgrade the RHIC cryogenics system to eliminate seal gas compressor single point failure (SC 7-2b).
  Assessment: MET

- Meet the cost and schedule milestones for construction of facilities and Major Items of Equipment within 10 percent of baseline estimates. Specifically, complete the Solenoidal Tracker at RHIC STAR Electro-Magnetic Calorimeter (EMCAL) (SC 7-2c).
  Assessment: MET

- Initiate first round of experiments with collisions with other ions to compare to results of gold-gold collisions (SC 2-2a).
  Assessment: MET

FY 2002

- As elements of the electron beam program, (a) complete commissioning of the BLAST detector at MIT/Bates and initiate first measurements, and (b) complete fabrication, installation and commissioning of the G-0 detector, a joint National Science Foundation-DOE project, at Thomas Jefferson National Accelerator Facility (TJNAF).
  Assessment: Mixed Results

- Construct a prototype high-energy, high-power gas catcher for RIA.
  Assessment: MET

- Collect the first data from neutral current interactions from Sudbury Neutrino Observatory (SNO).
  Assessment: MET

- Complete Helium Storage addition and liquid nitrogen standby cooling system at RHIC, leading to better cost effectiveness ($0.5M savings) and operational efficiency (10% increase).
  Assessment: Mixed Results

- Meet the cost and schedule milestones for construction of facilities and Major Items of Equipment (MIE) within 10% of baseline estimates. Complete the Pioneering High Energy Nuclear Interacting Experiment (PHENIX) Muon Arm Instrumentation.
  Assessment: MET

- Complete first round of experiments at RHIC at full energy; achieve the full design luminosity (collision rate).
  Assessment: MET

FY 2001

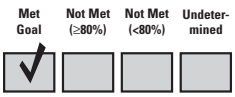
- Complete fabrication of the Bates Large Acceptance Spectrometer (BLAST) detector at Massachusetts Institute of Technology (MIT) in accordance with the project milestones.
  Assessment: MET

- Test low-energy prototype of Rare Isotope Accelerator (RIA) fast catcher and test low-beta accelerator cavities.
  Assessment: MET

- Meet the cost and schedule milestones for construction of facilities and Major Items of Equipment (MIE) within 10% of baseline estimates. Complete the Analysis System for Relativistic Heavy Ion Collider (RHIC) Detectors and RHIC Silicon Vertex Detector on schedule.
  Assessment: MET

PROGRAM GOAL:

SC GG 5.21

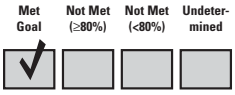


BIOLOGICAL AND ENVIRONMENTAL RESEARCH: Provide the biological and environmental discoveries necessary to clean and protect our environment, offer new energy alternatives, and fundamentally alter the future of medical care and human health.

Commentary: Progress continues to be made towards revealing the mechanisms and fundamental secrets of biological and environmental systems, leading to someday being able to manipulate matter at the micro, nano, and molecular scales; and to model and predict biological and environmental interactions on a regional and global basis.

Associated Annual Target for FY 2004

SC GG 5.21.1



Perform combined field/laboratory/modeling to determine how to interpret data at widely differing scales. Quantify contaminant immobilization and remobilization using one or a combination of the following potential pathways: natural microbial mechanisms, chemical reactions with materials, and colloid formation.

Commentary: Annual target met. A critical element of bioremediation is whether or not what works in the laboratory (where conditions are carefully controlled) also works in real world contaminated sites (where conditions are complex and often unpredictable). This measure has shown progress in moving from the lab to the field.

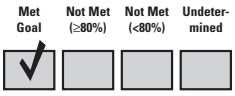
Supporting Documentation: Results on NABIR-UMTRA website: http://www.pnl.gov/nabir-umtra/.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

SC GG 5.21.2



Increase the rate of DNA sequencing – Number (in billions) of base pairs of high quality (less than one error in 10,000 bases) DNA microbial and model organism genome sequence produced annually. (FY04 – >20)

Commentary: Annual target met. 7.5Bbp of additional DNA sequenced in the fourth quarter, bringing the total for the year to 25Bbp (125% of the target). During the year, two diatoms, White Rot Fungus, a green algae, 41 microbes, and several fungi were sequenced. These organisms are relevant to DOE missions of Energy, Bioremediation and Climate Change.

Supporting Documentation: http://www.jgi.doe.gov/sequencing/statistics.html.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Increase capacity of Production Genomics Facility (PGF) to sequence 12 billion pairs of DNA per year, an increase of approximately 50% from FY 2002 (SC 3-1b).
  Assessment: MET

FY 2002

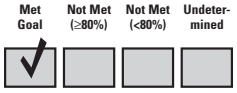
- By the end of FY 2002, the DOE Joint Genome Institute (JGI) will complete the high quality DNA sequencing of human chromosomes 16 and 19 and produce six billion base pairs of DNA sequence from model organisms (e.g., mouse, Fugu, and Ciona) to help understand the human sequence as part of the human Genome Program.
  Assessment: Not Met

FY 2001

- By the end of FY 2001, JGI will complete the sequencing and submission to public databases of 100 million finished and 250 million high quality draft base pairs of DNA, including both human and model organisms (E.G., the mouse) as part of the Human Genome Program.
  Assessment: MET

Associated Annual Target for FY 2004

SC GG 5.21.3 Improve Climate Models – Develop a coupled climate model with fully interactive carbon and sulfur cycles, as well as dynamic vegetation to enable simulations of aerosol effects, carbon chemistry and carbon sequestration by the land surface and oceans and the interactions between the carbon cycle and climate.



Commentary: Annual target met. Understanding the complexity of our global climate is critical to predicting how it might respond to human activity. The Department's climate efforts are focused on several critical aspects of the climate that also utilize our core capabilities. These areas include: the Carbon and Sulfur cycles, the effect of aerosols, Atmospheric Chemistry and Radiation effects (such as the role of clouds). This measure tracks our progress toward incorporating our research and field data into these complex climate models.

Supporting Documentation: Report on Activities Testing the Super-parameterization in the CAPT Framework by Potter et al. at the URL http://www-pcmdi.llnl.gov/projects/capt/publications.html.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Improve the precision of climate models by delivering a more realistic cloud submodel that reduces the uncertainty in calculations of the atmospheric energy budget by 10 percent (SC 3-2a).
  Assessment: MET

FY 2002

- Develop and test a fully coupled atmosphere-ocean-land-sea-ice climate model that has twice the spatial resolution of coupled models available in FY 2000 as part of the Climate Modeling and Prediction research. Support multi-disciplinary teams of scientists at multiple institutions using DOE supercomputers to perform model simulations, diagnostics and testing.
  Assessment: Mixed Results

FY 2001

- There were no related annual targets in FY 2001.

Associated Annual Target for FY 2004

SC GG 5.21.4 Average achieved operation time of the scientific user facilities as a percentage of the total scheduled annual operating time. FY04 – >90%

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
☑	☐	☐	☐

Commentary: Annual target met. All BER user facilities operated at greater than 90% of schedule operating time.

Supporting Documentation: BER Facility Operational Statistics Links -Center for Comparative and Functional Genomics – http://www.ornl.gov/sci/mgrf/facilities.shtml; Production Genomics Facility – http://www.jgi.doe.gov/sequencing/statistics.html; Free Air Carbon Dioxide Enrichment (FACE) Facilities – Nevada Test Site: http://www.unlv.edu/Climate_Change_Research/NDFF/performance.htm; ORNL: http://www.esd.ornl.gov/facilities/ORNL-FACE/userfacility.html; Duke: http://face.env.duke.edu/performance.cfm; Rhinelander, Wisconsin: http://aspenface.mtu.edu/performance.htm; Environmental Molecular Sciences Laboratory – http://www.emsl.pnl.gov/homes/hours.shtml; ARM Climate Research Facilities – http://www.arm.gov/acrf/opsstats.stm.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Maintain and operate the BER scientific user facilities so the unscheduled downtime on average is less than 10 percent of the total scheduled operating time (SC 7-3d).
  Assessment: MET

FY 2002

- Maintain and operate the BER scientific user facilities so the unscheduled downtime on average is less than 10 percent of the total scheduled operating time.
  Assessment: MET

FY 2001

- The BER scientific user facilities are maintained and operated so the unscheduled downtime averaged less than 10% of the total scheduled operating time.
  Assessment: MET

Associated Annual Target for FY 2004

SC GG 5.21.5 Advance blind patient sight: Complete fabrication of 60 microelectrode array for use as an artificial retina and tested in animal subject.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
☑	☐	☐	☐

Commentary: Annual Target met. Sixty microelectrode array was fabricated and planned animal testing completed.

Supporting Documentation: http://www.doemedicalsciences.org/abt/retina/retinas.shtml.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Additional Targets from 2003-2001

FY 2003

- Complete the high quality DNA sequencing of human chromosome 5 (SC 3-1a).
  Assessment: MET

- Establish at least 30 diverse collaborations for high throughput DNA sequencing with scientists outside the DOE Joint Genome Institute (JGI) important for conducting Genomics and Genomes to Life research (SC 3-1c).
  Assessment: MET

- Produce draft DNA sequences of more than 30 microbes vital to future U.S. energy security and independence, carbon sequestration, and environmental cleanup (SC 3-1d).
  Assessment: MET

- Increase the spatial resolution of the atmospheric and ocean and sea ice submodels to 1.4 degrees (about 150 kilometers) and approximately 0.7 degrees (about 75 kilometers), respectively, for the fully coupled climate model (SC 3-2b).
  Assessment: MET

- Keep within 10 percent of cost and schedule milestones for upgrades and construction of scientific user facilities (SC 7-3a).
  Assessment: MET

- Begin operation of the new high performance computer at the Environmental Molecular Science Laboratory (EMSL) at the Pacific Northwest National Laboratory (PNNL) (SC 7-3b).
  Assessment: MET

- Complete construction of the Laboratory for Comparative and Functional Genomics (LCFG) at ORNL (SC-7-3c).
  Assessment: MET

FY 2002

- Produce draft DNA sequence of more than 30 microbes that cover a range of functional relevance to DOE's life and environmental sciences and security missions, including carbon sequestration, environmental cleanup, bioremediation, and bioterrorism.
  Assessment: MET

- Keep within 10% of cost and schedule milestones for upgrades and construction of scientific user facilities; begin acceptance of the new high performance computer at the Environmental Molecular Sciences Laboratory (EMSL) at the Pacific Northwest National Laboratory (PNNL); continue construction of the Laboratory for Comparative and Functional Genomics (LCFG) at ORNL.
  Assessment: MET

FY 2001

- Complete the genetic sequencing of at least three additional microbes that produce methane or hydrogen from carbonaceous sources, or that could be used to sequester carbon, as part of the Microbial Genomics and Carbon Sequestration programs.
  Assessment: MET

- Conduct five Intensive Operations Periods (IOPs) on schedule at the Atmospheric Radiation Measurement (ARM) Southern Plains site in Oklahoma. Obtain data from second station on the North Slope of Alaska, and make the third station in the Tropical Western Pacific on Christmas Island operational on schedule and within budget, in accordance with the program plan.
  Assessment: Exceeded Goal

- Upgrades and construction of scientific user facilities are kept within 10% of cost and schedule milestones. Commissioning of the protein crystallography Structural Biology User Station at the Los Alamos National Laboratory is initiated, and construction of the Center for Comparative and Functional Genomics at Oak Ridge National Laboratory is initiated.
  Assessment: MET

PROGRAM GOAL:

SC GG 5.22

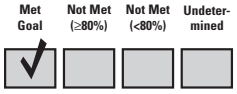
Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
✓			

BASIC ENERGY SCIENCE: Provide the scientific knowledge and tools to achieve energy independence, securing U.S. leadership and essential breakthroughs in basic energy sciences.

Commentary: Progress continues to be made towards observing and manipulating matter at the molecular scale, and understanding the behavior of large assemblies of interacting components.

Associated Annual Target for FY 2004

SC GG 5.22.1 Improve Temporal Resolution: Demonstrated first measurement of duration (measured in femtoseconds) and intensity (measured in millions photons per pulse) of an x-ray pulse. FY04 - <200, >0.005



Commentary: Annual target met. Just as film speed determines how clearly you photograph fast moving images, temporal resolution determines how well scientists can "see" fast events, such as chemical reactions and the folding of proteins, which happen on the scale of femtoseconds (1/ 1,000,000,000,000,000 of a second). This annual measure refers to the smallest time period that can be probed. The challenge is to devise probes that combine high intensity and short time duration in order to do these measurements. Results: 20 femtosecond pulses with 0.01 million photons per pulse.

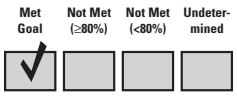
Supporting Documentation: E. A. Gibson, A. Paul, N. Wagner, R. Tobey, I. P. Christov, D. T. Attwood, E. Gullikson, A. Aquila, M. M. Murnane, and H. C. Kapteyn, "Generation of coherent soft x-rays in the water window using quasi phase-matched harmonic generation," Science, 302, 95 (2003).

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

SC GG 5.22.2 Improve Spatial Resolution: Demonstrated first measurement of spatial resolutions for imaging in the hard and soft x-ray regions, and spatial information limit for an electron microscope (measured in nanometers). FY04 – ≤115, ≤19, ≤0.08



Commentary: Annual target met. Just as the resolution of a computer screen determines the clarity of very small images, the resolution of scientific equipment determines the clarity with which scientists can "see" very small objects such as viruses or even atoms. This annual measure refers to the smallest object that can be resolved with various imaging techniques. Ultimately, we want to be able to "see" atoms and groups of atoms, which have a size on the scale of nanometers. Results: Hard x-ray - 100 nanometers; Soft x-ray - 19 nanometers; Electron microscope - 0.078 nanometers.

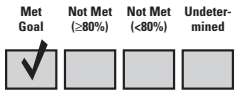
Supporting Documentation: Hard x-ray - The result was achieved at an experimental station of the Advanced Photon Source (APS) at ANL. These findings were submitted to BES by the APS. The report of the unpublished results resides at BES. Soft x-ray - The result was achieved at the Center for X-Ray Optics in the Advanced Light Source (ALS) at LBNL. These findings were submitted to BES by the ALS. The report of the unpublished results resides at BES. Electron microscope - P. D. Nellist, M. F. Chisholm, N. Dellby, O. L. Krivanek, M. F.Murfitt, Z. S. Szilagyi, A. R. Lupini, A. Borisevich, W. H. Sides Jr., S. J. Pennycook, "Direct sub-angstrom imaging of a crystal lattice," Science, 305,1741 (2004).

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

SC GG 5.22.3



Number of reacting species and billions of grid points in a three-dimensional combustion reacting flow computer simulation, as a part of the Scientific Discovery through Advanced Computing (SciDAC) perform a three-dimensional combustion reacting flow simulation involving more than 44 reacting species and 500,000 grid points.

Commentary: Annual target met. This annual measure refers to our ability to do calculations that replicate real-world conditions for combustion. Metrics for enhanced modeling capabilities are (1) the number of reacting species (the larger the number of species the more realistic the chemical model) and (2) billions of grid points in a three dimensional combustion reacting flow computer simulation (more points enable better description of the fluid dynamics). Results: 44 reacting species and 518,400 grid points.

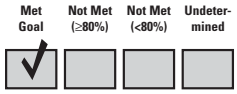
Supporting Documentation: The benchmark simulation was performed at PNNL using 256 processors and a detailed n-heptane chemical mechanism validated for high pressure ignition conditions. These findings were submitted to BES by the SciDAC project leader. The report of the unpublished results resides at BES.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

SC GG 5.22.4



Cost-weighted mean percent variance from established cost and schedule baselines for major construction, upgrade, or equipment procurement projects (Cost variance listed first). (FY04 – <10%, <10%)

Commentary: Annual target met. Results: +1.3% (cost variance) and +0.8% (schedule variance).

Supporting Documentation: The cost-weighted mean percent variances for BES construction projects are better than the established baselines as measured by the Department's established procedures for monitoring project milestones. Reports from the DOE Federal Project Directors on all BES construction projects reside in the files of the Office of Basic Energy Sciences (SC-10).

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Begin construction of one Nanoscale Science Research Center (NSRC), meeting the cost and timetables within 10 percent of the baselines given in the construction project data sheets for Project Number 03-R-312 (SC 4-2a). **Assessment: MET**

- Complete the upgrade of the SPEAR 3 storage ring at the SSRL, maintaining cost and schedule within 10 percent of baselines (SC 7-4A1).
  Assessment: MET

- Continue construction of the Spallation Neutron Source (SNS), meeting the cost and timetables within 10 percent of the baselines given in the construction project data sheet, Project Number 99-E-334. At the end of FY 2003, construction of the SNS will be 61 percent complete (SC 7-4B1).
  Assessment: MET

FY 2002

- Begin engineering and design of three NSRCs. Complete six percent of total Project Engineering Design (PED) AT LBNL, 60% at ORNL, and 24% at SNL by the end of FY 2002.
  Assessment: MET

- Continue upgrades on the major components of the SPEAR 3 storage ring at the Stanford Synchrotron Radiation Laboratory (SSRL), maintaining cost and schedule within 10% of baseline. At the end of the FY 2002, the upgrade of SPEAR 3 will be 70% complete.
  Assessment: MET

- Continue construction of the SNS, meeting the cost and timetables within 10% of the baselines in the construction project data sheet, Project number 99-E-334. At the end of FY 2002, construction of the SNS will be 47% complete.
  Assessment: MET

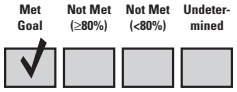
- Select and begin fabrication of one additional instrument for the SNS.
  Assessment: MET

FY 2001

- Meet the cost and schedule milestones for upgrade and construction of scientific user facilities, including the construction of the SNS.
  Assessment: MET

Associated Annual Target for FY 2004

SC GG 5.22.5 Average achieved operation time of the scientific user facilities as a percentage of the total scheduled annual operating time. (FY04 – >90%)



Commentary: Annual target met. Results: 91.9% (average annual operating time at BES facilities as a percentage of scheduled time).

Supporting Documentation: Annual report of final FY 2004 operating hours submitted to BES by 7 BES user facilities (3 neutron sources and 4 light sources). These facilities reports reside in the files of the Office of Basic Energy Sciences (SC-10).

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Maintain and operate the BES scientific user facilities so the unscheduled downtime on average is less than 10 percent of the total scheduled operating time. Maintain the cost and schedule milestones within 10 percent for upgrades and construction of scientific user facilities (SC 7-4A2).
  Assessment: MET

FY 2002

- Maintain and operate the BES scientific user facilities so the unscheduled downtime on average is less than 10 percent of the total scheduled operating time. Maintain the cost and schedule milestones within 10 percent for upgrades and construction of scientific user facilities.
  Assessment: MET

FY 2001

- Maintain and operate the scientific user facilities so that the unscheduled downtime average less than 10% of the total scheduled operating time.
  Assessment: MET

Additional Targets from 2003-2001

FY 2003

- Competitively select ad peer review at least 80 percent of all new research projects, using guidelines defined in 10 CFR 605 for the university projects, and similar guidelines established by BES for the laboratory projects (SC 4-1a).
  Assessment: MET

- Competitively evaluate approximately 30 percent of ongoing projects using guidelines defined in 10 CRF 605 for the university projects, and similar guidelines established by BES for the laboratory projects (SC 4-1b).
  Assessment: MET

- As part of the continuing, high-level review of the management processes and the quality, relevance, and the national and international leadership of BES programs, review the materials sciences and engineering activities using a Basic Energy Sciences Advisory Committee (BESAC) chartered Committee of Visitors (SC 4-1c).
  Assessment: MET

- Evaluate the following ongoing efforts using BESAC and BES sponsored workshops, with the goal of directing the activities toward international leadership and relevance to emerging technologies: photovoltaics, hydrogen, electron microscopy, and catalysis (SC 4-1d).
  Assessment: MET

- Through a BESAC-charted workshop on "Basic Research Needs to Assure a Secure Energy Future," evaluate future basic research directions appropriate for all activities of the BES program (SC 4-1e).
  Assessment: MET

- Conduct project engineering design (PED) activities to establish construction baselines on the two other NSRCs (SC 4-2b).
  Assessment: MET

- Establish the instrument suites and identify fabrication capabilities for the new NSRC-based upon user community, based on input at national workshops held in late FY 2001 and FY 2002 (SC 4-2c).
  Assessment: MET

- Select and begin upgrade/fabrication of at least two instruments at the Basic Energy Sciences (BES) synchrotron light sources, based on peer review of submitted proposals, to keep the facilities at the forefront of science. Because the lifetime of an instrument is about 7-10 years, this addresses the need to renew instruments on a regular basis (SC 4-3a).
  Assessment: MET

- Establish collaborative, national Research & Development programs for common needs at the BES synchrotron light sources, e.g., for detectors and other components (SC 4-3b).
  Assessment: MET

- Select and begin fabrication of one additional instrument for the Spallation Neutron Source (SNS) (SC 7-4B2).
  Assessment: MET

- Select and being upgrade/fabrication of one instrument each at the High Flux Isotope Reactor and the Manual Lujan, Jr. Neutron Scattering Center. Commitment at the Lujan Center is conditional upon Los Alamos Neutron Science Center (LANSC) demonstrating reliable operations, as determined by a Basic Energy Science Advisory Committee (BESAC) review to be conducted in FY 2003 (SC 7-4B3).
  Assessment: MET

FY 2002

- Competitively select ad peer review at least 80 percent of all new research projects, and evaluate approximately 30% of ongoing projects using guidelines defined in 10 CFR 605 for the university projects, and similar guidelines established by BES for the laboratory projects.
  Assessment: MET

- As part of the continuing, high-level review of management processes and the quality, relevance, and national and international leadership of BES programs, review chemical sciences activities using a BECAS-chartered Committee of Visitors.
  Assessment: MET

- Evaluate the following ongoing efforts using Basic Energy Science Advisory Committee (BESAC) and BES sponsored workshops, with the goal of direction, the activities toward international leadership and relevance to emerging technologies: superconductivity. Publish results and continue to structure BES programs in accordance with these results.
  Assessment: MET

- Award 40 grants to universities and six projects at DOE laboratories in selected areas of nanoscale science, engineering, and technology.
  Assessment: MET

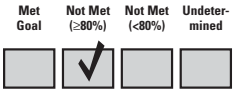
FY 2001

- Use expert advisory committees and rigorous peer review committees to ascertain that the research performed by investigators in universities and DOE laboratories is focused and outstanding. An additional indicator of the success of our scientific research is recognition through the awards received by our researchers and by the broader scientific community.
  Assessment: MET

- Initiate 76 grants to universities (from 417 grant applications) and 12 projects at DOE laboratories (from 46 Field Work Proposals) in selected areas of nanoscale science, engineering, and technology.
  Assessment: MET

PROGRAM GOAL:

SC GG 5.23

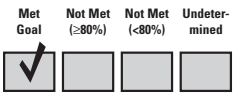


ADVANCED SCIENTIFIC COMPUTING RESEARCH PROGRAM: Deliver forefront computational and networking capabilities to scientists nationwide that enable them to extend the frontiers of science, answering critical questions that range from the function of living cells to the power of fusion energy.

Commentary: Progress continues to be made towards making scientific computing a true third pillar of discovery, joining theory and experiment as a standard tool that researchers rely upon to make scientific progress.

Associated Annual Target for FY 2004

SC GG 5.23.1



Maintain Procurement Baselines. Percentages within (1) original baseline cost for completed procurements of major computer systems or network services, and (2) original performance baseline versus integrated performance over the life of the contracts. (- FY04 – <10%, 10%)

Commentary: Annual target met. There were no procurements of major computer systems in FY04. The number of major procurements in a given year is small; therefore, many quarters do not include major procurements. There are some major procurements that were scheduled for FY04, that have been moved to FY05. We will continue to follow this annual target, with milestones into FY05.

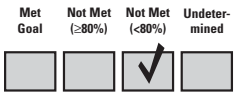
Supporting Documentation: LBNL and ORNL Accounting Systems.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

SC GG 5.23.2



Focus usage of the primary supercomputer at the National Energy Research Scientific Computing Center (NERSC) on capability computing. Percentage of the computing time used that is accounted for by computations that require at least 1/8 of the total resource. (- FY04 – 50%)

Commentary: Annual target not met, result 47% for the year. However, the Quarterly Milestone was met. Actual figure in the fourth quarter of FY04 was 66.1%.

Supporting Documentation: NERSC Webpage. http://www.nersc.gov.

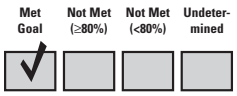
Plan of Action: Starting June 1, 2004, large runs were only being charged for 50% of the hours used. This action lead to a FY04 fourth quarter result of 66% usage. Will continue this policy, along with other INCITE efforts for FY05. However, based on FY04 experience, will lower annual goal from 50% to 40% of NERSC usage is associated with programs using at least 1/8 of the machine.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Associated Annual Target for FY 2004

SC GG 5.23.3



Improve Computational Science Capabilities. Average annual percentage increase in the computational effectiveness (either by simulating the same problem in less time or simulating a larger problem in the same time) of a subset of application codes within the Scientific Discovery through Advanced Computing (SciDAC) effort. (FY04 – >50%)

Commentary: Annual target met. Selected suite of SciDAC applications has been benchmarked to determine initial performance and current capability. Measured increases in effectiveness ranged from 28% to 360% with an average increase of approximately 200%.

Supporting Documentation: Test reports on selected codes.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Additional Targets from 2003-2001

FY 2003

- Complete the definitive analysis of the advantages and issues associated with lightweight kernel operating systems, rather than full kernels for the compute nodes of extreme-scale scientific computers, resolving a critical issue for the future of high performance computers in the U.S. (SC 5-1a).
  Assessment: MET

- Begin installation of next generation National Energy Research Scientific Computing Center (NERSC) computer, NERSC-4, that will at least double the capability available to solve leading edge scientific problems (SC 5-2a).
  Assessment: MET less than 80% of the Target

- Initiate at least five competitively selected interdisciplinary research teams to provide computational science and applied mathematics advances that will accelerate biological discovery in microbial systems or develop the next generation of computational tools required for nanoscale science, based on peer review of submitted proposals (SC 5-2b).
  Assessment: MET

- Complete the review of ASCR high performance computing facilities by the Advanced Scientific Computing Advisory Committee (ASCAC) and implement action plans to respond to recommendations (SC 7-5b).
  Assessment: MET

- Maintain and operate facilities, including NERSC and Energy Sciences Network (ESnet), so the unscheduled downtime on average is less than 10 percent of the total scheduled operating time (SC 7-5a).
  Assessment: MET

FY 2002

- Complete the development of the Cougar lightweight kernel for clusters of Alpha processor-based computers, and begin the assessment of scalability and performance for selected applications.
  Assessment: MET

- Achieve operation of the IBM-SP computer at 5.0 teraflop "peak" performance. These computational resources will be integrated by a common high performance file storage system that facilitates interdisciplinary collaborations. Transfer the users with largest data processing and storage needs to the IBM-SP from the previous generation Cray T3E.
  Assessment: MET

- Deliver preliminary report on Advanced Scientific Computing Advisory Committee (ASCAC) review of ASCR high performance computing facilities.
  Assessment: MET

- Maintain and operate facilities, including NERSC and ESnet, so the unscheduled downtime on average is less than 10% of the total scheduled operating time.
  Assessment: MET

FY 2001

- Initiate project to understand the advantages and issues associated with lightweight kernel operating systems rather than full kernels for the compute nodes of extreme-scale scientific computers.
  Assessment: MET

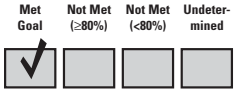
- Initiate the review of ASCR high performance computing facilities by the ASCAC.
  Assessment: MET

- Operate facilities, including the National Energy Research Scientific Computing Center (NERSC) and ESnet, within budget while meeting user needs and satisfying overall SC program requirements. NERSC delivers 3.6 teraflop capability at the end of FY 2001 to support DOE's science mission.
  Assessment: Exceeded Goal

- Expand and increase access to published and preprinted scientific and technical information via cost-effective, specialized information retrieval systems, resulting in a 25% increase in users served.
  Assessment: Exceeded Goal

PROGRAM GOAL:

SC GG 5.24

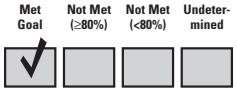


FUSION ENERGY SCIENCES PROGRAM: Answer the key scientific questions and overcome enormous technical challenges to harness the power that fuels a star, realizing by the middle of this century a landmark scientific achievement by bringing "fusion power to the grid."

Commentary: Progress continues to be made towards developing a science-based solution that harnesses fusion energy to power our industries and homes.

Associated Annual Target for FY 2004

SC GG 5.24.1



Average achieved operation time of the major national fusion facilities as a percentage of the total planned operation time. (FY04 – >90%)

Commentary: Annual target met. Results: DIII-D--Yes. Operated for 7.2 weeks this quarter, completing a total of 18.2 weeks for all of FY 2004. This exceeds the planned 18 weeks of operation. C-Mod--Yes. Completed 19 weeks of operations, exceeding the target of 18. NSTX--Yes. Operated for 5.1 weeks and achieved a total of 21.1 weeks, exceeding the goal of 18 weeks.

Supporting Documentation: http://www.ofes.fusion.doe.gov/ProgramTargets/ProgramTargets.htm.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

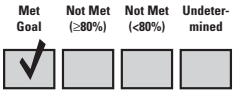
- Keep deviations in weeks of operation for each major facility within 10 percent of the approved plan (SC 7-6b).
  Assessment: MET less than 80% of the target.

FY 2002
- Keep deviations in weeks of operation for each major facility within 10 percent of the approved plan.
  Assessment: MET

FY 2001
- There were no related annual targets in FY 2001.

Associated Annual Target for FY 2004

SC GG 5.24.2 Cost-weighted mean percent variance from established cost and schedule baselines for major construction, upgrade, or equipment procurement projects. (FY04 – <10%,<10%)



Commentary: Annual target met. Results: The NCSX MIE cost and schedule variance for FY 2004 was approximately 5% for both cost and schedule, which met the FY 2004 Joule Target of <10%. The final designs for the Vacuum Vessel Subassembly and the Modular Coil Winding Forms were also completed, and Critical Decision (CD)-3 "Start of Construction" was approved.

Supporting Documentation: http://www.ofes.fusion.doe.gov/ProgramTargets/ProgramTargets.htm.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003
- Keep deviations in cost and schedule for upgrades and construction of scientific user facilities within 10 percent of approved baselines (SC 7-6a).
  Assessment: MET

FY 2002
- Keep deviations in cost and schedule for upgrades and construction of scientific user facilities within 10 percent of approved baselines.
  Assessment: MET

FY 2001
- There were no related annual targets in FY 2001.

Additional Targets from 2003-2001

FY 2003
- Complete installation of internal coils for feedback control of plasma instabilities on DIII-D (SC 6-1a).
  Assessment: MET

- Conduct a first set of experiments demonstrating the effectiveness of these coils in controlling plasma instabilities, and compare the results with theoretical predictions (SC 6-1b).
  Assessment: MET

- Produce high temperature plasmas with five megawatt of Ion Cyclotron Radio Frequency (ICRF) power for pulse lengths of 0.5 seconds in the Alcator C-Mod. Assess the stability and confinement properties of these plasmas, which would have collisionalities in the same range as that expected for the burning plasma regime (SC 6-1c).
  Assessment: MET

- Complete the testing of the High-Power Prototype advanced ion-cyclotron radio frequency antenna that will be used at the Joint European Torus (JET) (SC 6-2a).
  Assessment: MET

- Complete preliminary experimental and modeling investigations of nano-scale thermodynamic, mechanical, and creep-rupture properties of nano-composited ferritic steels (SC 6-2b).
  Assessment: MET

- Complete the National Compact Stellarator Experiment (NCSX) Conceptual Design, and begin the Preliminary Design (SC 7-6c).
  Assessment: MET

FY 2002

- Use recently upgraded plasma microwave heating system and new sensors on DIII-D to study feedback stabilization of disruptive plasma oscillations.
  Assessment: MET

- Successfully demonstrate innovative techniques for initiating and maintaining current in a spherical torus.
  Assessment: MET

- Complete design and fabrication of the High-Power Prototype advanced ion-cyclotron radio frequency antenna that will be used at the Joint European Torus (JET).
  Assessment: Mixed Results

- Complete measurements and analysis of thermal creep of Vanadium Allow (V-4Cr-4Ti) in vacuum and lithium environments; determine controlling creep mechanisms and access operating temperature limits.
  Assessment: MET

- Successfully complete within cost and in a safe manner all TFTR decontamination and decommissioning activities.
  Assessment: MET

FY 2001

- Complete, by June 2001, the 6 MW power upgrade of the DIII-D microwave system, and initiated experiments with it to control and sustain plasma current profiles, with the goal of maintaining improved confinement of plasma energy for longer periods of time.
  Assessment: Below Expectations

- Improve nonlinear magnetohydrodynamics codes to be capable of computing the effect of realistic resistive walls and plasma rotation on advanced Tokamak pressure limits.
  Assessment: MET

- Evaluate first physics results from the innovative Electric Tokamak at the University of California Los Angeles (UCLA) to study fast plasma rotation and associated radial electric fields due to radio frequency - drive, in order to enhance plasma pressure in sustained, stable plasmas.
  Assessment: MET

- Initiate a new U.S.-Japan collaborative program for research on enabling technologies, materials, and engineering science for an attractive fusion energy source.
  Assessment: MET

- Complete the DOE-Japan Atomic Energy Research Institute (JAERI) collaboration on fusion plasma chamber exhaust processing in the Tritium Systems Test Assembly (TSTA) facility at Los Alamos National Laboratories (LANL).
  Assessment: MET

- By June 2001, enter into a new NSF/DOE Partnership in Basic Plasma Science and Engineering to provide continuity after the existing agreement.
  Assessment: Not MET

- Achieve planned cost and schedule performance for dismantling, packaging, and offsite shipping of the Tokamak Fusion Test Reactor (TFTR) systems.
  Assessment: MET

- Keep deviations in cost and schedule for upgrades and construction of scientific user facilities within 10% of approved baselines.
  Assessment: MET

- Keep deviations in weeks of operation for each major facility within ten percent of the approved plan.
  Assessment: MET

General Goal 6: Environmental Management

Accelerate cleanup of nuclear weapons manufacturing and testing sites, completing cleanup of 108 contaminated sites by 2025.

Summary of FY 2004 Annual Performance Targets

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
5	1	3	0

FY 2004 Program Costs ($ in Millions): Goal 6 Costs: $6,283
FY 2003 Program Costs ($ in Millions): Goal 6 Costs: $6,287

PROGRAM GOAL:

EM GG 6.18

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
		✓	

ENVIRONMENTAL MANAGEMENT: Based on EM's accelerated risk reduction and site closure initiative, EM is targeting 89 and 100 geographic sites to be completed by the end of FY 2006 and FY 2012, respectively.

Commentary: FY04 targets were exceeded for four measures: packaging of plutonium metal or oxide for long-term storage, packaging of spent nuclear fuel for final disposition, disposal of low-level waste and low-level mixed waste, and release site completions demonstrating EM's commitment toward accelerating site cleanup. EM conversely had four measures for which the targets were not met. One measure, radioactive facility completions, was listed as yellow, and three measures were listed as red: packaging of bulk plutonium or uranium residues for disposition, closure of liquid waste tanks, and shipment of transuranic (TRU) waste to the Waste Isolation Pilot Plant (WIPP) for final disposition.

For the radioactive facility completion measure, EM was one facility shy of meeting its FY 2004 target. However, EM is cumulatively on track with its lifecycle schedule for this measure.

For packaging of plutonium or uranium residues, EM is actually on track to complete this measure in accord with its life-cycle schedule since Hanford's accelerated work schedule resulted in work planned for FY04 to be completed in FY03.

Regarding closure of the waste tanks, DOE was unable to perform any work due to the Waste Incidental to Reprocessing (WIR) lawsuit. However, on November 5, 2004, the 9th Circuit Court of Appeals overturned the District Court's decision and directed the Court to dismiss the lawsuit. In addition, the FY 2005 National Defense Authorization Act allows DOE to continue tank waste cleanup at the Savannah River Site and Idaho National Laboratory.

With respect to the shipment and disposition of TRU waste, most of the negative variance results from suspension of TRU waste shipments from Idaho due to certification and procedure implementation issues, and from Los Alamos National Laboratory due to waste characterization issues. Both sites worked with the Carlsbad Field Office to resolve the issues and were able to resume TRU waste shipments by the third quarter of FY04. While Rocky Flats, Hanford and Savannah River Site are ahead of schedule for this measure, the EM Complex was not able to recover schedule in FY04. None-the-less, EM's legacy TRU waste shipment and disposition project is still on track for completion by FY 2010.

Associated Annual Target for FY 2004

EM GG 6.18.1 Package 1,323 containers of plutonium metal or oxide for long-term storage, bringing the total number of containers packaged to 5,872.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
✓			

Commentary: In FY 2004, 1,620 containers of plutonium metal or oxide were packaged for long-term storage. The EM Complex met its target for FY04, and in fact completed more work than planned at Savannah River Site. In addition, EM has been packaging more waste per container than originally planned. Work at Richland has been completed for this measure. Accomplishment of this measure will result in the Department meeting its goals for accelerated closure.

Supporting Documentation: Data Acquisition Systems Printout of Canisters Inspected. [UCNI documentation also available at secured locations.]

Related Annual Targets (FY 2003 - FY 2001)

FY 2003
- Package 2,836 containers of plutonium metals or oxide for long-term storage (EM 1 -3a).
  Assessment: MET

FY 2002
- Stabilize 110 containers of plutonium metals/oxides and 17,225 kilograms bulk of plutonium residues.
  Assessment: MET

FY 2001
- Stabilize 510 containers of plutonium metals/oxides and 29,456 kilograms bulk of plutonium residues.
  Assessment: Below Expectations

Associated Annual Target for FY 2004

EM GG 6.18.2 Package 254 kilograms of bulk plutonium or uranium residues for disposition, bringing the total kilograms packaged to 107,913.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
		✓	

Commentary: In FY 2004, 79 kilograms of bulk plutonium or uranium residues were packaged for disposition. While Joule reports this target as not being met, EM is on track with the lifecycle schedule for this measure since in FY 2003, Hanford accelerated and completed the remaining lifecycle work for this metric. With completion of all scheduled lifecycle work in FY 2003, the representation in Joule of a FY 2004 first quarter milestone of 176 for Hanford was no longer accurate and overestimated the amount of work EM planned to do in FY04. EM's internal configuration controlled annual target for FY 2004 of 78 kg bulk at Savannah River Site was accomplished in FY04. Accomplishment of this measure will result in the Department meeting its goals for accelerated closure.

Supporting Documentation: Process Ledger combined with Facility Inventory.

Plan of Action: No action plan is needed since Hanford completed all remaining work for this measure ahead of schedule during FY 2003, which resulted in variances for FY 2004. Savannah River completed its scheduled FY 2004 work as planned.

Related Annual Targets (FY 2003 - FY 2001)

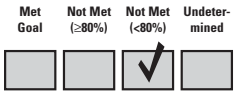
FY 2003
- Package 934 kilograms of plutonium or uranium residues for disposition (EM 1-3c).
  Assessment: MET

FY 2002
- Related FY 2002 targets are included in the "Related Annual Targets" for FY 2004 target EM GG 6.18.1.

FY 2001
- Related FY 2001 targets are included in the "Related Annual Targets" for FY 2004 target EM GG 6.18.1.

Associated Annual Target for FY 2004

EM GG 6.18.3 Close 9 liquid waste tanks, bringing the total number of tanks closed to 11.



Commentary: In FY 2004, no liquid waste tanks were closed. EM did not meet its target. The negative variance is due to the Waste Incidental to Reprocessing (WIR) lawsuit, which is preventing the closure of tanks. Not accomplishing this measure as scheduled, could result in the Department not meeting its goals for accelerated cleanup.

Supporting Documentation: Written verification from South Carolina Department of Health and Environmental Control (SCDHEC) Regulator documenting approval of closed/emptied tank.

Plan of Action: The Department appealed the 2003 Idaho District Court decision. On November 5, 2004, the 9th Circuit Court of Appeals overturned the District Court's decision and directed the Court to dismiss the lawsuit. In addition, the FY 2005 National Defense Authorization Act allows DOE to continue tank waste cleanup at the Savannah River Site and the Idaho National Laboratory.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003
- Close one liquid waste tank (EM 1-2b).
  Assessment: Met less than 80% of the Target

FY 2002
- There were no related annual targets in FY 2002.

FY 2001
- There were no related annual targets in FY 2001.

Associated Annual Target for FY 2004

EM GG 6.18.4 Packaged 633 metric tons of spent nuclear fuel for disposition, bringing the total number of metric tons packaged to 2,079.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
☑	☐	☐	☐

Commentary: In FY 2004, 649 metric tons of spent nuclear fuel were packaged for disposition. While increasingly degraded fuel encountered at Hanford contributed to increased production time, EM implemented procedural changes and was able to meet the FY04 target. Accomplishment of this measure will result in the Department meeting its goals for accelerated cleanup.

Supporting Documentation: Nuclear Material Item Transfer forms.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003
- Package 857 metric tons of heavy metal of spent nuclear fuel for disposition (EM 1-3d).
  Assessment: Met at or above 80%, but less than 100% of the Target

FY 2002
- Move to dry storage 601 metric tons of heavy metal (MTHM) of spent nuclear fuel (SNF).
  Assessment: Mixed Results

FY 2001
- Move to dry storage 195 metric tons of heavy metal (MTHM) of spent nuclear fuel (SNF).
  Assessment: Exceeded Goal

Associated Annual Target for FY 2004

EM GG 6.18.5 Ship 12,952 cubic meters of transuranic (TRU) waste for disposition, bringing the total number of cubic meters shipped to 27,044.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
☐	☐	☑	☐

Commentary: In FY 2004, 7,061 cubic meters of TRU waste was shipped for disposition. Most of the negative variance results from Idaho's suspension of TRU waste shipments from the Advanced Mixed Waste Treatment Project (AMWTP) shortly after receiving waste shipment certification in March of FY 2004. The suspension resulted from certification and procedure implementation issues. After performing a root cause analysis and working with the Carlsbad Field Office (CBFO) to resolve certification and procedure implementation issues, Idaho's AMWTP received approval to begin shipping TRU waste to WIPP and became fully operational in the 3rd quarter of FY 2004.

Los Alamos National Laboratory (LANL) resumed shipments of TRU waste to WIPP in the 3rd quarter of FY 2004. LANL worked with the Central Characterization Project (CCP) at LANL, run by the CBFO to rewrite procedures and train personnel to perform to the CCP procedures. LANL successfully completed the recertification audit conducted by CBFO and the Environmental Protection Agency (EPA)at the end of April 2004.

Rocky Flats, Hanford, and Savannah River are ahead of schedule.

While the measure was not accomplished in FY04, the Department is on track to meets its goals for accelerated cleanup.

Supporting Documentation: Off-site shipping manifests.

Plan of Action: While the EM complex was not able to recover schedule in FY04, EM's Legacy TRU Waste project is still on track for completion by FY 2010.

Related Annual Targets (FY 2003 - FY 2001)

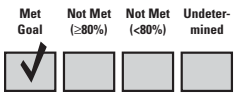
FY 2003
- Ship 4,135 cubic meters of transuranic waste to the Waste Isolation Pilot Plant (WIPP) (EM 1-2d).
  Assessment: MET

FY 2002
- Ship 4,709 cubic meters of TRU waste to WIPP for disposal.
  Assessment: MET

FY 2001
- Ship 2,425 cubic meters of TRU waste to WIPP for disposal.
  Assessment: Below Expectations

Associated Annual Target for FY 2004

EM GG 6.18.6



Dispose of 89,815 cubic meters of low-level waste (LLW) and mixed low-level waste (MLLW), bringing the total number of cubic meters disposed to 492,383.

Commentary: In FY 2004, 212,905 cubic meters of low-level waste and mixed low-level waste were disposed. The EM Complex met its FY 2004 target and is cumulatively ahead of its life-cycle schedule for this measure. This acceleration is largely due to Rocky Flats having disposed of more than double its planned volume of low-level and low-level mixed waste. Several other sites are also ahead of schedule including Oak Ridge and Idaho. Accomplishment of this measure will result in the Department meeting its goals for accelerated cleanup.

Supporting Documentation: Off-site shipping manifests.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003
- Dispose of approximately 78,388 cubic meters of low-level waste/mixed low-level waste (EM 1-2e).
  Assessment: MET

FY 2002
- Dispose of approximately 8,446 cubic meters of MLLW.
  Assessment: Mixed Results
- Treat approximately 2,765 cubic meters of MLLW.
  Assessment: Mixed Results
- Dispose of approximately 76,655 cubic meters of LLW.
  Assessment: MET

FY 2001

- Dispose of approximately 8,271 cubic meters of MLLW.
  Assessment: Below Expectations

- Treat approximately 4,814 cubic meters of MLLW.
  Assessment: Nearly Met Goal

- Dispose of approximately 47,908 cubic meters of LLW.
  Assessment: Exceeded Goal

Associated Annual Target for FY 2004

EM GG 6.18.7 Complete 45 radioactive facilities, bringing the total number of facilities completed to 193.

Commentary: In FY 2004, 44 radioactive facilities were completed. While the EM Complex was one facility shy of meeting its FY 2004 target, it is cumulatively on track with the lifecycle schedule for this measure. Maintaining the lifecycle schedule for this measure will result in the Department meeting its goals for accelerated cleanup.

Supporting Documentation: Completion report delivered to State and Federal regulatory agencies.

Plan of Action: EM will continue to focus its efforts and resources on accelerating completion of radioactive facilities in FY 2005 and beyond in order to maintain its lifecycle schedule.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Complete 10 radioactive facilities (EM 1-1d).
  Assessment: MET

FY 2002

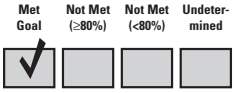
- There were no related annual targets in FY 2002.

FY 2001

- There were no related annual targets in FY 2001.

Associated Annual Target for FY 2004

EM GG 6.18.8 Complete 200 release sites, bringing the total number of release sites completed to 5,388.



Commentary: In FY 2004, 300 release sites were completed. The EM Complex met its FY04 target and is cumulatively ahead of its lifecycle schedule for this measure. This acceleration is largely due to accelerating release site completions at Rocky Flats, Hanford, and Sandia. Accomplishment of this measure will result in the Department meeting its goals for accelerated cleanup.

Supporting Documentation: Completion report delivered to State and Federal regulatory agencies.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Complete 193 release sites (EM 1-1b).
  Assessment: MET

FY 2002

- Complete 113 release sites.
  Assessment: MET

FY 2001

- Complete 196 release sites.
  Assessment: Nearly met

Additional Targets from 2003-2001

FY 2003

- Complete remediation at two additional geographic sites, the Maxey Flats Disposal Site in Kentucky and the Salmon Site in Mississippi, increasing the total completed to 77 of the 114 geographic sites (EM 1-1a).
  Assessment: Met less than 80% of the Target

- Complete two nuclear facilities (EM 1-1c).
  Assessment: MET

- Complete 43 industrial facilities (EM 1-1e).
  Assessment: MET

- Eliminate 700,000 gallons of liquid waste (EM1-2a).
  Assessment: Met less than 80% of the Target.

- Package 130 containers of high-level waste for final disposition (EM 1-2c).
  Assessment: Met at or above 80%, but less than 100% of the Target

- Package 283 containers of enriched uranium for long-term storage (EM1-3b).
  Assessment: Met less than 80% of the Target

- Package 1,815 metric tons of depleted and other uranium for disposition (EM 1-3e).
  Assessment: MET

FY 2002

- Complete remediation at one additional geographic site, the Weldon Spring Site in Missouri.
  Assessment: MET

- Conduct a top-to-bottom review of the Environmental Management program to ensure a proper and clear focus of the mission programmatic goals and objectives.
  Assessment: MET

- Update EM Infrastructure Restoration Plan to support 10 year facilities and infrastructure planning.
  Assessment: MET

- Complete action addressing safety and health issues at Paducah from 1990 forward (Phase 1).
  Assessment: MET

- Complete 42 facility decommissioning projects.
  Assessment: MET

- Deactivate 30 facilities.
  Assessment: MET

- Produce 205 canisters of HLW.
  Assessment: Not Met

FY 2001

- Complete remediation at three geographic sites.
  Assessment: MET

- Complete actions addressing safety and health issues at Paducah from 1990 forward (Phase I).
  Assessment: MET

- Complete 28 facility decommissioning.
  Assessment: MET

- Deactivate 20 facilities.
  Assessment: Exceeded Goal

- Produce 225 canisters of HLW.
  Assessment: MET

PROGRAM GOAL:

LM/WT EQ 4.1

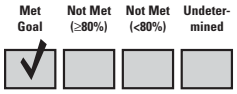
Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
☑	☐	☐	☐

LEGACY MANAGEMENT: Minimize the social and economic impacts on individuals and communities caused by changes in the Department's work force by (1) providing separation benefits comparable to industry standards while achieving annual savings that are three times the one-time cost of separation, and (2) creating and retaining jobs in the community to diversify the economy and employ displaced workers.

Commentary: The Office of Legacy Management's target in FY04, relating to the creation and retention of jobs in communities impacted by the Department's change in workforce, was exceeded. This demonstrates the Departments resolve to ensure that the economic impacts to local communities and individual workers are minimized to the extent possible. The Department has put forth much effort to foster new business and economic development in the communities in which it is reducing its presence as a result of completing environmental cleanup and changing mission requirements.

Associated Annual Target for FY 2004

LM/WT EQ 4.1a Support local community transition activities that will create or retain, cumulatively, between 30,500 and 31,000 private sector jobs by the end of FY 2004.



Commentary: The Worker and Community Transition Program has exceeded its FY04 target of saving or retaining jobs in the communities affected by DOE's work force actions for a cumulative total over ten years of 34,700 jobs. This directly contributes to the minimization of social and economic impacts to individuals and communities by creating and retaining jobs in the community to diversify the economy and employ displaced workers.

Supporting Documentation: Supporting documentation for the reported number of jobs is contained in the report "Semi-Annual Report, FY 2004" which provides a project-by-project report of the number of jobs created or retained. This documentation is retained in the Office of Legacy Management.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

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General Goal 7: Nuclear Waste

License and construct a permanent repository for nuclear waste at Yucca Mountain and begin acceptance of waste by 2010.

Summary of FY 2004 Annual Performance Targets

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
2	0	0	0

FY 2004 Program Costs ($ in Millions): Goal 7 Costs: $530
FY 2003 Program Costs ($ in Millions): Goal 7 Costs: $421

PROGRAM GOAL:

RW GG 7.25 *NUCLEAR WASTE DISPOSAL*: License and construct a permanent repository for nuclear waste at Yucca Mountain and begin acceptance of waste by 2010.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
✓			

Commentary: OCRWM continues to make progress toward the goal of opening a deep geologic repository and beginning waste acceptance. The Department intends to submit to the NRC a license application for the Yucca Mountain repository as soon as possible after we have resolution on the approach to address the lack of an EPA Standard. The opening date of the repository will depend on a number of factors, including: the implementation of an EPA Standard, the ability to begin early construction of site support facilities/utilities, and an adequate funding profile.

Associated Annual Target for FY 2004

RW GG 7.25.1 Complete draft license application (September 30, 2004).

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
✓			

Commentary: A draft License Application (LA) was produced by DOE's contractor on July 26, 2004. The creation of an initial draft LA in FY 2004 was a critical first step towards our ultimate goal of submitting a final LA to NRC because it permits OCRWM to review the numerous diverse chapters as part of a comprehensive document. DOE's initial review of the draft LA provided by the contractor suggests that there is additional significant work to be done before a license application can be submitted to the NRC. In addition, because of the invalidation of the EPA Standard, it has become clear that completing a full draft license application that would meet NRC requirements by December 2004 is not possible at this time because key aspects of the standards against which the repository is to be licensed are yet to be determined. OCRWM will continue to work with its contractor to refine the application and prepare a final draft.

Supporting Documentation: The July 26, 2004 letter to John Arthur from John Mitchell, President and General Manager of Bechtel/SAIC Company, LLC, transmitting a draft License Application.

Related Annual Targets (FY 2003 - FY 2001)

FY 2003

- Complete additional testing and analysis required to support license application design (RW 2-1a).
  Assessment: Met less than 80% of the Target

- Complete development of repository conceptual design and request Acquisition Executive approval to start preliminary design, which will be used in the license application (RW 2-1b).
  Assessment: MET

- Complete and issue updated Total System Life Cycle Cost and Fee Adequacy reports in preparation for license application (RW 2-1c).
  Assessment: MET

FY 2002

- Submit a Final Environmental Impact Statement to the President as required by the Nuclear Waste Policy Act (NWPA).
  Assessment: MET

- Begin development of updated Total System Life Cycle Cost and Fee Adequacy Reports.
  Assessment: MET

FY 2001

- Complete the scientific and technical documents that will provide the technical basis for a possible site recommendation.
  Assessment: MET

- Complete and issue Total System Life Cycle Cost and Fee Adequacy reports.
  Assessment: MET

Associated Annual Target for FY 2004

RW GG 7.25.2 Approve the Transportation Project Plan (September 30, 2004) for internal use by the Director of the National Transportation Program.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
☑	☐	☐	☐

Commentary: Issuance of the Office of National Transportation (ONT) Project Plan culminates a year-long effort to identify describe the major transportation projects, subprojects and supporting activities; key milestones, and associated funding profiles. The Plan is an important tool for effective implementation and management of the National Transportation Project, monitoring its progress, preparing for CD-2, and facilitating the further planning required to support initiation of waste acceptance. The Plan establishes an "operating baseline" for the cost and schedule components of the project which will suffice for management control purposes at this stage of the Program.

Supporting Documentation: The September 30, 2004 memorandum from Victor Trebules to Gary Lanthrum, Director, Office of National Transportation, that transmits and approves the "Office of National Transportation, Transportation Project Plan, Revision 0" and its supporting attachment.

Related Annual Targets (FY 2003 - FY 2001)

There were no related annual targets in FY 2003 - 2001.

Additional Targets from 2003-2001

FY 2003

- Develop and issue the OCRWM Transportation Strategic Plan (RW 2-2b).
  Assessment: Met less than 80% of the Target

FY 2002

- Submit a Site Recommendation Report to the President.
  Assessment: MET

- Issue Nuclear Waste Policy Act Section 180(c) Notice of Revised Proposed Policy and Procedures for public comment.
  Assessment: Not Met

- Issue draft request for proposals for waste acceptance and transportation services.
  Assessment: MET

FY 2001

- Conduct statutory hearings in the vicinity of Yucca Mountain to inform the residents that the site is under consideration, and to receive comments regarding a possible site recommendation.
  Assessment: MET

- Update all process models and conduct a total system performance assessment for use in the site recommendation.
  Assessment: MET

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Status of Unmet FY 2003 Performance Goals

Goal 1: Nuclear Weapons Stewardship

Measure (PAR)	Description of Goal	FY 2003 PAR (Page No.)	Crosswalk to FY 2004 Target
NS 1-1b	Meet all annual weapons maintenance, refurbishment, and dismantlement schedules developed jointly by the DOE and DOD.	83	DP GG 1.27

Status: Unmet. The unmet deliverables pertained to the W80 Life Extension Program (LEP). On March 17, 2004, the Nuclear Weapons Council approved a rebaselined W80 LEP and revised schedule. The W80 LEP is now scheduled for completion in 2015. **Plan of Action:** Carry out W80 LEP according to the nuclear Weapons Council's revised schedule.

NS 1-2a	Meet the critical FY 2003 Campaign performance targets contained in the NNSA Future-Year Nuclear Security Plan (FYNSP).	85	DP GG 1.28

Status: Partially Met. Of the 57 critical FY 2003 Campaign deliverables contained in the NNSA FYNSP, 54 were completed, 2 were cancelled and one was downsized. Digital Radiography and Computerized Tomography for pit characterization) was cancelled when the related project (Materials Stewardship) was cancelled; and one (Finalize design criteria in support of the subprojects making up the Special Materials Capability Project) was cancelled when the Materials Campaign was cancelled as part of a realignment of responsibilities. The downsized deliverable, "complete measurements of neutron capture cross sections on 234U and 236U, using the Dance Detector system over the late time neutron energy range" has been deferred to FY 2005.

Goal 2: Nuclear Non-Proliferation

NS 2-2a	Expedite the retrieval of spent nuclear fuel from Central Asia.	93	NN GG 2.44

Status: Unmet. A new Russian law requires an environmental impact statement (EIS) before the fuel can be returned to Russia. The Russian Federation is currently working to complete the EIS that includes any impact of the transportation routes through neighboring countries and is not expected to be completed until the beginning of fiscal year (FY) 2005. **Plan of Action:** The first spent nuclear fuel shipment will begin first quarter FY 2005, and be completed in the second quarter FY 2005; assuming the EIS is completed on schedule.

NS 2-3a	Complete Title II (detailed) design of the Mixed Oxide Fuel Fabrication Facility (MOX FFF) for disposition of excess U.S. weapons-grade plutonium, and commence down blending of off-specification highly enriched uranium at the Savannah River Site.	95	NN GG 2.47.3

Status: Unmet. Title II design of the US MOX FFF is now scheduled to be completed during the first quarter of FY 2005. While the exact timeframe for resolving the liability issue with Russia is uncertain, we are optimistic that an agreement will be reached in time to enable construction of the U.S.

and Russian MOX FFFs in May 2005. State and DOE have established interim arrangements with the French Government to facilitate the transfer of limited design information to permit licensing, but not construction, of the Russian MOX facility. **Plan of Action:** NNSA and Duke, Cogema, Stone & Webster (DCS) have established a task force to identify and implement actions necessary to ensure completion of 100% of the licensable design by the end of FY05/1Q.

NS 2-3b	Install Material Protection Control and Accountability (MPC&A) upgrades on nuclear weapons and materials, eliminate weapons-usable materials, and consolidate the number of storage locations for weapons-usable materials into fewer building and sites to improve security in Russia.	96	NN GG 2.46

Status: Met. The FY2003 annual target for NS 2-3b (Install MPC&A upgrades on nuclear weapons and materials, eliminate weapons-usable materials, and consolidate the number of storage locations for weapons-usable materials into fewer building and sites to improve security in Russia) was fully met during FY2004 when the program achieved the remaining targets of 16.5% of the 27 MTs of HEU weapons-usable material was converted to LEU and MPC&A radiation equipment was installed at 46 border sites in Russia.

NS 2-4a	Successfully complete and close down the Soviet-designed reactor safety program.	98	NN GG 2.44

Status: Unmet. Sixteen projects have been completed in FY 2004. Plan of Action: The remaining four projects are expected to be completed in the first quarter of FY 2005. These four projects are the RBMK Safety Parameter Display System, Ignalina Safety Parameter Display System, Novovoronezh Safety Parameter Display System; and Russian circuit breakers. These projects are funded with FY 2003 uncosted balances. Source of Information: PNNL monthly status report.

Goal 4: Energy Security

ER 1-4d	Conduct four rulemakings to amend appliance standards and test procedures.	119	EE GG 4.04.5

Status: Unmet. Three rulemakings were conducted (Commercial Unitary Central Air Conditioning, Distribution Transformers, and Residential Furnaces). The fourth rulemaking is no longer required due to a court case supporting the reinstatement of the 13 SEER regulations for niche products. The court case was argued on January 29, 2003 and decided on January 13, 2004. The 13 SEER regulations were reinstated.

ER 2-3b	Establish testing program at three existing gasifiers at partner sites for the development and application of technology components e.g. gas clean-up, gas engines, fuel cells, etc.) that need to be integrated with the gasification components to produce power, fuels, and chemicals.	129	EE GG 4.08.a

Status: Met. Testing programs at three gasifier partner's sites (NREL, Community Power Corporation, and Iowa State University) were established.

ER 2-3d	A 2-cycle engine oil derived from soy oil is commercialized for the emerging bioproducts industry.	130	EE GG 4.08.e

Status: Met. The Commercialization of a soy-based two cycle engine began with the commercial introduction of the AquaLogic 460 in the first quarter of FY 2004.

ER 5-1d	Reduce the number of dry holes drilled in frontier areas, and increase near-term energy security through field testing (three projects) improved oil recovery techniques, seismic (one project), data acquisition (two projects); interpretation (one project) and streamflood simulation (one project) in existing light and heavy oil reservoirs at sites ranging from Alaska to Utah. Initiate full-scale field test of newly developed vibration sonic tool.	155	FE GG 4.57

Status: Unmet. At the end of FY 2003, this target was deficient in two areas. The first deficiency occurred because the operator did not get approval for the Bartlesville formation in the Woolaroc Field, Osage County, OK project from the EPA and therefore the project was shut down. In the first quarter of FY 2004, the horizontal waterflood milestone was completed, all 3 horizontal wells have been drilled and the project is on line. Furthermore, the EPA approved the project on December 2003. All actions for this target have been met.

The second deficiency involved the development of a vibration tool for oil reservoir stimulation. The testing of the prototype was not successful in that it became irretrievably stuck in the hole just prior to the evaluation phase of the test. It was abandoned and the company had no more money (neither did DOE) to build another tool and retest it. No further actions for this unmet target are planned.

ER 6-1b	Add 39.8 million barrels (cumulative from April 2002). EOY crude oil inventory will equal 628 million barrels.	163	FE GG 4.58.1

Status: Met. Target of 628 MMB was achieved during the first quarter of FY 2004 when 14 million barrels of oil were added to the Strategic Petroleum Reserve, bringing the total to 638 MMB.

ER 7-1b	Following a competitive process, award at least one industry cost-shared cooperative agreement for technology development and regulatory demonstration activities.	166	NE GG 4.14.1

Status: Met. In November, 2003, the Department issued a competitive solicitation requesting proposals from industry for cost-shared technology development and regulatory demonstration activities. In May 2004, the Department announced an award selection for the Tennessee Valley Authority (TVA) to conduct these activities.

ER 7-4b	Keep cost and schedule milestones for upgrades and construction of key nuclear facilities within 10 percent of approved baselines.	176	NE GG 4.17.2

Status: Unmet. In December, 2003, the Baseline Change Proposal changing the work scope to eliminate Phase 3 was submitted to NE headquarters and approved. Upgrade and construction projects were executed in FY 2004 in accordance with the approved FY 2004 baseline and were within 10 percent of project cost and schedule.

ER 9-2b	Southwestern Power Administration will meet planned repayment of principal on power investment.	184	PMA GG 4.52.2

Status: Unmet. Southwestern's final audited financial statement that includes both the U.S. Army Corps of Engineers and Southwestern's power costs indicated that planned repayment of the Federal power investment was not achieved. Failure to achieve this performance target was due to below average water conditions in the region. **Plan of Action**: Southwestern's future ability to meet this target is dependent on both annual rainfall levels and approved rate adjustments. Southwestern has completed annual power repayment studies for its three power systems and has determined that an increase in revenue is necessary to meet repayment requirements for two of the systems. A Federal Register notice has been issued for public comment. At the end of the public comment period, Southwestern will develop a final rate proposal for the Deputy Secretary of Energy's interior approval and for final approval by the Federal Energy Regulatory Commission. New rates will go into effect January 1, 2005.

Goal 5: Science

SC 1-1b	Complete research and development of two new accelerator systems for the recycler and the Tevatron electron lens.	195	SC GG 5.19

Status: Met. This target was met in FY 2004. The Tevatron Electron Lens task was complete in 2003 and is working as planned. The recycler system was installed in FY 2003, but not commissioned in FY 2003 due to vacuum problems. The recycler system is now complete and has begun operations.

SC 1-2a	Increase the total data delivered to BaBar at the SLAC B-factory be delivering 45 fb-1 of total luminosity.	196	SC GG 5.19.2

Status: Met. The total data delivered to the BaBar detector system in FY 2004 is on pace to exceed the FY 2003 target of 45 fb-1 of total luminosity.

SC 5-2a	Begin installation of next generation NERSC computer, NERSC-4, that will at least double the capability available to solve lading edge scientific problems.	217	SC GG 5.23

Status: Unmet. This project was redirected. A less costly solution of upgrading the existing computer was implemented resulting in more than doubling the capability available to scientists.

SC 7-6b	Keep deviations in weeks of operation for each major facility within 10 percent of the approved plan.	236	SC GG 5.24.1

Status: Unmet. An improved coil design for NSTX was thoroughly reviewed by an external committee and repairs were completed in January 2004. NSTX began operation again at the end of January. All three major fusion facilities are on pace to attain planned operating weeks in FY 2004.

Goal 6: Environmental Management

EM 1-1a	Complete remediation at two additional geographic sites, the Maxey Flats Disposal Site in Kentucky and the Salmon Site in Mississippi, increasing the total completed to 77 of the 114 geographic sites.	239	EM GG 6.18

Status: Unmet. EM has yet to make up the 1 site shortfall (Salmon Site) from its FY03 annual target. While site remediation is complete, EM's criterion for completion and close-out is regulator approval. EM-1 approved the site closure documents and sent the package to the State of Mississippi in May 2004 for approval. State approval is expected in FY05. The delay in this measure will not

impact the lifecycle completion of this activity. **Plan of Action:** The site is currently working with the State of Mississippi in receiving its approval of the cleanup and transfer of the site to the appropriate party.

EM 1-2a Eliminate 700,000 gallons of liquid waste. 243 EM GG 6.18

Status: Unmet. As a result of the Waste Incidental to Reprocessing (WIR) litigation, EM has not yet begun work on this task and therefore has not made up any of the 700,000 gallon shortfall from its FY03 annual target. In FY03, U.S. District Court for the District of Idaho ruled against the Department with respect to the Department's classification of tank waste as "incidental waste," ruling that it violates the Nuclear Waste Policy Act. DOE directed the contractor to stop efforts to close the tanks, and to instead focus efforts on accelerated cleaning of additional emptied liquid waste tanks to prepare them for eventual closure. **Plan of Action:** The Department appealed the 2003 Idaho District Court decision. On November 5, 2004, the 9th Circuit Court of Appeals overturned the District Court's decision and directed the Court to dismiss the lawsuit. In addition, the FY 2005 National Defense Authorization Act provides a statutory mechanism which allows DOE to resume tank waste cleanup at the Savannah River Site and the Idaho National Laboratory.

EM 1-2b Close one liquid waste tank. 244 EM GG 6.18.3

Status: Unmet. As a result of the WIR litigation, EM has not yet begun work on this task and therefore has not made up the 1 tank shortfall from its FY03 annual target. In FY03, U.S. District Court for the District of Idaho ruled against the Department with respect to the Department's classification of tank waste as "incidental waste," ruling that it violates the Nuclear Waste Policy Act. DOE directed the contractor to stop efforts to close tanks, and to instead focus efforts on accelerated cleaning of additional emptied liquid waste tanks to prepare them for eventual closure. **Plan of Action:** The Department appealed the 2003 Idaho District Court decision. On November 5, 2004, the 9th Circuit Court of Appeals overturned the District Court's decision and directed the Court to dismiss the lawsuit. In addition, the FY 2005 National Defense Authorization Act provides a statutory mechanism which allows DOE to resume tank waste cleanup at the Savannah River Site and the Idaho National Laboratory.

EM 1-2c Package 130 containers of high-level waste for final disposition. 244 EM GG 6.18

Status: Unmet. In FY04, EM has made up 10 of the 15 container shortfall from the FY03 target, leaving a shortfall balance of 5 containers of high-level waste to package for final disposition in order to meet its FY03 target. Note that despite fewer than 130 canisters being produced in FY03, actions taken during the year by Savannah River Site resulted in increased canister waste loading. As a result, the 115 canisters produced had a waste loading of 143 equivalent canisters. Therefore, even though the number of containers produced in FY03 was 15 less than target, in terms of waste equivalency, the target would have been exceeded by 13 canisters. **Plan of Action:** EM plans to continue to accelerate work for this metric and will make up the remaining FY03 shortfall of 5 containers in FY05.

EM 1-3b Package 283 containers of enriched uranium for long-term storage. 249 EM GG 6.18

Status: Met. In FY04, EM has made up the 82 container shortfall from its FY03 annual target by exceeding its FY04 target by 249 containers.

EM 1-3d	Package 857 metric tons of heavy metal of spent nuclear fuel for disposition.	250	EM GG 6.18.4

Status: Unmet. In FY04, EM has made up 16 of the 49 MTHM shortfall from its FY03 annual target leaving a shortfall balance of 33 MTHM of spent nuclear fuel to package for disposition in order to meet its FY03 target. **Plan of Action:** EM will continue packaging of spent nuclear fuel at Hanford in FY05 and will make up the remaining FY03 shortfall of 33 MTHM.

Goal 7: Nuclear Waste

RW 2-1a	Complete additional testing and analysis required to support license application design.	252	RW GG 7.25.1

Status: Unmet. This test was not completed in the first quarter of FY04, and it has not been rescheduled. In view of budgetary limitations, all of the planned activities in support of LA were reviewed and it was determined that, while we had hoped and planned to perform the test, it was not absolutely critical to LA submittal, and available funds went to activities that were. The test may be conducted in the future if it is necessary to develop supplemental information during the NRC's LA review, but there are not current plans to do so.

RW 2-2b	Develop and issue the OCRWM Strategic Transportation Plan.	255	RW GG 7.25

Status: Met. The Plan was issued and widely distributed on November 18, 2003.

Performance Deficiencies for Management-Related Annual Targets

CM 2-1d	Improve and Maintain the Department's Secure Telecommunication Capability.	77

Status: Unmet. However, this project will be completed following new phone deliveries that are expected in the third quarter of FY 2005. To complete this target, 25% of STU III secure telephones were to be replaced with more advanced phones by the end of FY 2003. However, due to a delayed appropriation in FY 2004, this project was not funded until February 2004. GSA has ordered the new phones and the OCIO is currently awaiting the deliveries that have a 9 to 12 month lead time.

CM 2-1e	OCIO Staff Skill Sets.	77

Status: Met. To complete this target, 100% of the OCIO staff were to receive Individual Development Plan (IDP) training and training plans were to be developed to address 25% of the common themes identified within the employee IDPs. IDP training was completed for all OCIO employees in the 1st quarter of 2004. Skills needs assessments (SNAs) required for each organization were delayed while discussions with Union and Labor Relations personnel were held to establish preparation guidelines for the SNAs. Upon conclusion of these discussions, IDPs were prepared by employees, approved by management, and a training plan was completed to address 25% of the IDP common themes in the 2nd quarter of 2004. This completes OCIO actions associated with this target.

CM 2-1f	Centralization of IT Operations.	78

Status: Unmet. This mission was transferred to the Office of Legacy Management. To complete this target, the Department was to establish a central repository of closure site records. Responsibility for establishing this facility was transferred from the OCIO to the Office of Legacy Management (LM)

in the 3rd quarter of FY 2003. Since the transfer, LM received a Critical Decision Zero approval in the 2nd quarter of FY 2004 for a FAST Federal Records Storage Capability.

CM 2-1h Strengthen Cyber Security Posture. 79

Current Status: Met. To complete this target, the OCIO was to conduct monthly vulnerability scans of all IT assets, and by the end of FY 2003, implement the Department's Headquarters Program Cyber Security Plan (PCSP). Monthly vulnerability scans were conducted. However, implementation of the PCSP (as evidenced by PCSP sign-off by the CIO) was not achieved until the 1st quarter of FY 2004. This completes OCIO actions associated with this target.

CM 1-2b Identify Future Studies. 79

Current Status: Unmet. Due to the need to resolve DOE management concerns involving implementation of OMB Revised Circular A-76, the principals, DOE and OMB, agreed to partition efforts associated with this target into three new more focused targets addressing A-76 studies, Performance Work Statements, and a Preplanning Study Phase for FY 2004 (ME 1-2a, ME 1-2b, and ME 1-2c).

CM 1-4b Department Strategic Plan. 80

Current Status: Met. As part of the Department's efforts to cascade Strategic Planning goals throughout all levels of the Department, PA&E is overseeing the implementation of the Performance Management Framework. A critical step in the implementation was to issue guidance to programs so they could complete their Program Plans. Program Plans document how each program will accomplish the goals and objectives of the DOE Strategic Plan. Program Plan Guidance was issued in the 1st quarter of 2004. Program plans issued by GPRA unit were submitted to PA&E in the 2nd Quarter of 2004 for evaluation.

CM 5-1b DOE Strategic Plan for Security. 81

Status: Unmet. The 25-Year Security Strategic Plan is currently under review by the two Under Secretaries. SSA had obtained concurrences from all offices subordinate to the Under Secretaries and was awaiting concurrence from the Under Secretaries themselves. However, SSA understands that the Under Secretaries would like to review the Plan in light of recent security incidents and to provide comments for possible modification to ensure the Plan is current. **Plan of Action**: Publish the Plan as soon as senior DOE management approval is obtained and concurrence is received.

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Management-Related Annual Targets

The Department's Strategic and General Goals are accomplished throughout the fiscal year not only through the efforts of the major program offices in the Department, but with additional effort from staff offices that support the programs in carrying out the missions. The Department's staff offices perform critical functions necessary for successfully achieving the Department's programmatic goals and functions. These functions including managing information technology, ensuring sound legal advice and fiscal stewardship, developing and implementing uniform program policy and procedures, maintaining and supporting our workforce, safeguarding our work spaces, and providing Congressional and public liaison.

To accomplish these management objectives, the Department monitored its performance against 29 annual targets related to programs managed by the Office of the Chief Information Officer (CIO), the Office of Environment, Safety and Health (EH), the Office of Management, Budget and Evaluation (OMBE), and the Office of Security (SO). With the exception of the six targets specified below, the Department's performance against its management-related targets was rated at 100%.

Office	Target Number in Joule	Annual Target

CIO CM2-1d Advocate and implement E-government citizen service delivery by improving delivery of IT services.

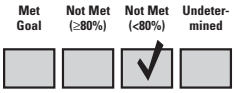
Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
☐	☑	☐	☐

Commentary: The annual target was not met. To complete this performance target, OCIO was to complete the eXCITE transition in 2 program offices. The OCIO fully transitioned the Hearings and Appeals Program Office but only completed 65% of the General Counsel Program Office (GC). The Office of the General Counsel is being jointly supported by OCIO and GC support staff with no adverse user impact. The OCIO completed 9 of 10 eXCITE migrations during the fiscal year with the Office of General Council being the only remaining office within the Department yet to complete the migration. With the advent of the eXCITE program, the Department of Energy will realize over a 50% reduction in IT user support costs.

Supporting Documentation: Transmittal of migration completion by Hearings and Appeals Customer Account Manager.

Plan of Action: A plan for completion of the General Counsel (GC) eXCITE migration has been established. In summary, the Office of General Counsel has 556 remaining users to be migrated to the eXCITE Common Operating Environment (COE). For these remaining migrations, the OCIO eXCITE Team is prepared to: 1) Conduct migrations at a rate of 10 per day per the Microsoft project schedule described in the plan either during or after business hours at the discretion of GC. 2) Leave a day between migrations for follow up with users that have just been migrated, so an eXCITE Migration Team member can visit the user to assure all applications and functionality have returned. 3) The OCIO eXCITE Team will continue to utilize the automated Altiris tool as the migration method.

OMBE ME 1-1c Improve Departmental Human Capital Management by implementing comprehensive human resources strategies which will continue the streamlining efforts of the DOE hiring process at HQ through process re-engineering, improved automated recruitment, and other means that reduce the time it takes to issue selection certificates by 20 percent from the FY 2003 baseline.

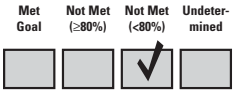


Commentary: A new OPM requirement to implement a 45-day hiring model has superceded previously submitted target for this goal. The DOE tracking system was modified to accommodate OPM's requirements. Implementing guidance and reporting requirements were developed and distributed on September 23, 2004 via email. Data from this process will be analyzed and used in efforts to meet OPM's requirements. The thrust for this goal was changed as a result of the need to implement the OPM 45-day hiring model. Throughout FY 2005, DOE will work toward achieving this 45-day goal.

Supporting Documentation: September 23, 2004 email.

Plan of Action: Develop baseline number of days to hire and compare to 45 day goal.

OMBE ME 1-3c Meet major milestones for the implementation of the Integrated Management Navigation System (I-MANAGE) Standard Accounting and Reporting System (STARS), Standard Budget System (SBS), and I-MANAGE Data Warehouse (IDW) projects.



Commentary: Although the I-Manage implementation schedule was delayed, considerable development and testing was achieved which will contribute to completing the revised schedule and implementation of an integrated financial management system for the Department.

The STARS Project completed two rounds of user acceptance testing. The User Acceptance testing was important in determining the quality of the final STARS product. Using predetermined Success Criteria measured against the User Acceptance Testing results, a STARS Policy Go/No-Go decision was made on August 16, 2004, to delay the STARS deployment.

Supporting Documentation: Mr. C. Simpson email August 17, 2004, 7:54am.

Plan of Action: (1) Conduct pre-deployment activities leading to STARS implementation in Q1, FY 2005. Assess results of an independent Verification and Validation review of the new STARS project plan. Complete deployment in April 2005; 2) Complete SBS design baseline following the selection of the software; 3) Complete IDW/STARS reporting users acceptance testing by the end of Q2 FY 2005; and 4) Conduct user training in IDW/STARS reporting capabilities by the end of Q2 FY 2005.

OMBE ME 1-4a Complete all FY 2004 actions in the FMFIA corrective action plan for the departmental challenge of performance management, thereby eliminating the challenge and the reportable condition for FY 2004.

Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
			✓

Commentary: The Office of Program Analysis and Evaluation (PA&E) put forth three actions in FY 2004 to address the issues identified in the Reportable Condition. First, the Deputy Secretary issued a memorandum directing program and staff offices to establish or strengthen their internal controls and to ensure data accuracy, proper and available supporting documentation, and well-defined performance measures. Second, PA&E implemented the Performance Management Standard Operating Procedure that provides guidance to the PA&E analysts with regard to submitting, tracking, reviewing, and reporting corporate performance measurement information. And finally, Performance Management training conducted in FY 2004 was provided to the program offices to address the evaluation of their internal controls and performance measurement reporting.

Supporting Documentation: Includes the quarterly DOE course offering announcements, the FMFIA corrective action plan, and the Office of Inspector General Special Report "Management Challenges at the Department of Energy" DOE/IG-0626, dated November 2003. Future documentation for determining the results is the FY 2005 Performance and Accountability Report.

Plan of Action: The status of the reportable condition on performance measurement reporting will not be known until the publishing of the FY 2004 Performance and Accountability Report in FY 2005. If the condition is eliminated, the Department will continue to implement and strengthen the policies and procedures that were developed in FY 2004 to eliminate the reportable condition identified in the FY 2003 Performance and Accountability Report. Failure to eliminate this reportable condition will require the Department to reexamine the causes for the condition's persistence and then develop and implement corrective actions in FY 2005.

SO CM 5-1a Implement increased security protective measures for DOE facilities in the National Capital area including the installation of automated access control systems at the Forrestal and Germantown facilities; the installation of permanent vehicle barriers along Independence Avenue; and initiate the pole wrap project at the Forrestal facility.

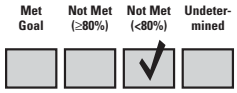
Met Goal	Not Met (≥80%)	Not Met (<80%)	Undetermined
	✓		

Commentary: Enhancements to physical security, personnel accountability, and technical security systems have resulted in improved operational readiness, improved emergency management and response capabilities, and overall enhanced protection for employees, contractors, and visitors at all Headquarters facilities. Eleven of twelve milestones were completed for successful accomplishment of the annual target. Due to delays in getting contracts placed through the Corps of Engineers, the pole wrap design package was not submitted to the General Services Administration and the National Capital Planning Commission by the end of FY 04.

Supporting Documentation: Includes project completion and acceptance documents and the Statement of Work contained in the Memorandum of Agreement between DOE and the Corps of Engineers.

Plan of Action: Complete and submit the pole wrap design documents to the General Services Administration and the National Capital Planning Commission. Planned Completion Date: end of 1Q FY05.

SO CM 5-1d



Complete and submit for issuance a draft Safeguards and Security (S&S) policy by September 30, 2004, which will focus on required outputs, where appropriate, as opposed to the specific measures to be employed throughout the DOE complex.

Commentary: The consolidation of 27 Safeguards and Security policy documents into an umbrella Order and 7 topical Manuals promotes ease of reference, eliminates conflicts and redundancies in policy, and focuses on performance measures over procedural compliance, where appropriate. Three of four milestones were completed. Comments received on the draft streamlined policy documents are currently being resolved.

Supporting Documentation: Includes the draft umbrella Order and 7 Manuals and comments received during the comment period.

Plan of Action: Resolve all comments and submit (thru the Directives process) the final policy documents for issuance by September 2005.

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